CRPL-F 26

IONOSPHERIC DATA

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PREPARED BY CENTRAL RADIO PROPAGATION LABORATORY
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CENTRAL RADIO PROPAGATION LABORATORY
NATIONAL BUREAU OF STANDARDS
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TERMINOLOGY AND SCALING PRACTICES

The symbols and terminology used in this report are those adopted by the International Radio Propagation Conference, and given in detail on pages 24 to 26 of the report IRPL-C61, "Report of International Radio Propagation Conference," and in the section on "Terminology," in reports IRPL-F1, 2, 3, 4, 5.

In the past, ionospheric conditions were summarized on a monthly basis by using average or mean values, for each hour of the day, for each month. However, following the recommendations of the International Radio Propagation Conference, held in Washington 17 April to 5 May 1944, beginning with data for 1 Jan. 1945, median values were used by IRPL wherever possible. Thus, median values are given for Washington, for all stations reporting directly to the CRPL, for the Canadian stations, and for all others sending in detailed tabulations to the CRPL, from which medians can be computed.

Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data existed.

The monthly median values used here are the values equaled or exceeded on half the days of the month at the given hour. The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given in the report referred to above, IRPL-C61.

a. For all ionospheric characteristics:
Values missing because of A, B, C or F (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:
Values missing because of E are counted as equal to or less than the lower limit of the recorder.
Values missing because of D are counted as equal to or greater than the upper limit of the recorder.
Values missing because of G are counted:
1. For $f^{o}F2$, as equal to or less than $f^{o}F1$.
2. For h'F2, as equal to or greater than the median.
Values missing for any other reason are omitted from the median count.

c. For muf factors (M-factors):
Values missing because of G are counted as equal to or less than the median.
Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because no Es reflections appeared, the equipment functioning normally otherwise, are counted as equal to or less than the median f°E, or equal to or less than the lower frequency count of the recorder.

Values of fEs missing for any other reason, and values of hEs missing for any reason at all, are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D.C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, no median value is computed, the data being considered insufficient.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, so long as there are at least five values, the median is not considered as doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

It is expected that this practice will be of assistance in evaluating the monthly median Washington data.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in CRPL-F18.

"Extent of E" is defined as follows: the highest value of f°E. This is usually Es, but may include cases of normal E which were difficult to distinguish from Es, owing to the absence of a definite cusp.

MONTHLY AVERAGE AND MEDIAN VALUES OF WORLD-WIDE IONOSPHERIC DATA

The ionospheric data given here in Tables 1 to 72 and Figs. to 108 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL predictions of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data:

Australian Council for Scientific and Industrial Research,
Radio Research Board:
- Brisbane, Australia
- Canberra, Australia
- Cape York, Australia
- Hobart, Tasmania
- Townsville, Australia

British Department of Scientific and Industrial Research,
Radio Research Board:
- Slough, England
- Burghead, Scotland
- Capetown, Union of S. Africa
- Colombo, Ceylon
- Oslo, Norway
- Cairo, Egypt
- Falkland Is.
- Tromso, Norway

Canadian Radio Wave Propagation Committee:
- Churchill, Canada
- Ottawa, Canada
- St. John's, Newfoundland
- Prince Rupert, Canada
- Clyde, Baffin I.
- Swan River, Manitoba (Mobile unit)
- The Pas, Manitoba (Mobile unit)
- Gillam, Manitoba (Mobile unit)

New Zealand Radio Research Committee:
- Kermadec, Is.
- Christchurch (Canterbury University College Observatory)
- Campbell I.
- Pitcairn I.
- Rarotonga I.

South African Council for Scientific and Industrial Research:
- Johannesburg, Union of S. Africa

Scientific Research Institute of Terrestrial Magnetism, Moscow, U.S.S.R:
Bukhta Tikhaya, U.S.S.R.
Tomsk, U.S.S.R.
Sverdlovsk, U.S.S.R.
Moscow, U.S.S.R.
Leningrad, U.S.S.R.
Alma Ata, U.S.S.R.

Carnegie Institution of Washington (Department of Terrestrial Magnetism):
Huancayo, Peru
Watheroo, W. Australia

United States Army Signal Corps:
Leyte, Philippine Is.
Tokyo, Japan
Okinawa, I.

National Bureau of Standards (Central Radio Propagation Laboratory):
Washington, D. C.
San Francisco, California (Stanford University)
Baton Rouge, Louisiana (Louisiana State University)
San Juan, Puerto Rico (University of Puerto Rico)
Boston, Massachusetts (Harvard University)
Fairbanks, Alaska (University of Alaska, College, Alaska)
Wuchang, China (National Wuhan University)
Palmyra I.
Adak, Alaska
Guam I.
Maui, Hawaii
Trinidad, British West Indies

All India Radio (Government of India), New Delhi, India:
Bombay, India
Delhi, India
Madras, India
Peshawar, India

Radio Wave Research Laboratories, Central Broadcasting Administration:
Chungking, China
Peiping, China

Beginning with the current issue, the publication of tables of so-called "provisional data," reported to the CRPL by telephone or telegraph, will be discontinued. The reason for this change in policy is that users of the data hitherto published in this form, receive it through established channels sooner than it reaches them in the F-series. Furthermore, having two sets of data, "provisional" and "final," for the same station for the same month leads to confusion.

It must be emphasized that there is to be no change in the methods used for rapid reporting and exchange of data. The change has to do only with the printing of provisional data in the F-series. Comments on this decision are invited.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of these errors are due to:

a. Differences in scaling records where spread echoes are present.

b. Omission of values where $f^{o}F2$ is less than or equal to $f^{o}F1$, leading to erroneously high values of monthly average or median values.

c. Omission of values where critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series reports, IRPL-F1, 2, 3, 4 and 5.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. Predictions for individual stations used to construct the charts may be more accurate than the values read from the chart since some smoothing of the contours is necessary to allow for the longitude effect within a zone.

Discrepancies between predicted and observed values are often ascribable to these effects.

IONOSPHERE DISTURBANCES

Table 73 presents ionosphere character figures for Washington, D.C., during September 1946, as determined by the criteria presented in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with American magnetic K-figures, which are usually covariant with them.

Table 74 lists for the stations whose locations are given the sudden ionosphere disturbances observed on the continuous field intensity recordings made at the Sterling Radio Propagation Laboratory during September 1946.

Table 75 lists for the stations whose locations are given the sudden ionosphere disturbances observed at the Brentwood and Somerton, England receiving stations of Cable and Wireless Ltd. during August and September 1946.

Table 76 gives provisional radio propagation quality figures for North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, August 1946, compared with the CRPL daily radio disturbance warnings, which are primarily for the North Atlantic paths, the CRPL weekly radio propagation forecasts of probable disturbed periods, and the half-day American geomagnetic K-figures.

The radio propagation quality figures for the North Atlantic were prepared from radio traffic and ionospheric data reported to the CRPL, in the manner described in detail in report IRPL-R31, "North Atlantic Radio Propagation Disturbances October 1943 through October 1945," issued 1 Feb. 1946.

The radio propagation quality figures for the North Pacific were prepared from radio traffic and ionospheric data reported to the CRPL, in a manner similar to that of IRPL-R31. The master scale of IRPL-R31 was used to formulate conversion scales for the North Pacific reports. Currently, beginning with CRPL-F23, issued July 1946, the North Pacific radio propagation quality figures reported are prepared from these revised conversion scales rather than, as hitherto, from the conversion scales of report IRPL-R13, "Ionospheric and Radio Propagation Disturbances, October 1943 through February 1945," issued 24 May 1945.

These radio propagation quality figures give a consensus of opinion of actual radio propagation conditions as reported by the half-day over the two general areas. It should be borne in mind, however, that though the quality may be disturbed according to the CRPL scale, the cause of the disturbance is not necessarily known. There are many variables that must be considered. In addition to ionospheric storminess itself as the

cause, conditions may be reported as disturbed because of seasonal characteristics, such as are particularly evident in the pronounced day and night contrast over North Pacific paths during the winter months, or because of improper frequency usage for the path and time of day in question. Insofar as possible, frequency usage is included in rating the reports. Where the actual frequency usage is not shown in the report to the CRPL, it has been assumed that the report is made on the use of optimum working frequencies for the path and time of day in question. Since there is a possibility that all of the disturbance shown by the quality figures is not due to ionospheric storminess alone, care should be taken in using the quality figures in research correlations with solar, auroral, geomagnetic or other data. Nevertheless, these quality figures do reflect a consensus of opinion of actual radio propagation conditions as found on any one half-day in either of the two general areas.

AMERICAN RELATIVE SUNSPOT NUMBERS

Table 77 presents the daily median values of relative sunspot numbers as reported by American observers for September 1946. The reports have been reduced, by appropriate constants, approximately to the Zurich scale of relative sunspot numbers. The monthly relative sunspot number is the mean of the daily median values listed in the table. This method was devised by Mr. A. H. Shapley of the Department of Terrestrial Magnetism, Carnegie Institution of Washington. Details will be found in his article, "American Observations of Relative Sunspot Numbers in 1945 for Application to Ionospheric Prediction," Popular Astronomy, Vol. 54, No. 7, pp. 351-358, August 1946. The criteria for A observers have been modified slightly, beginning with this table. Rather than the mean deviation for the four monthly constants being held within a value of 0.16 of the four-month mean, the mean deviation must be held within 15% of that observer's constant of the four-month mean. In addition, sunspot numbers must be reported for at least one-half of the month during three-fourths of the year. This will tend to restrict the observers to those whose observations are consistent from month to month without rejecting the work of observers for whom weather conditions are unsatisfactory for observations during some months of the year.

IONOSPHERIC DATA FOR EVERY DAY AND HOUR AT WASHINGTON, D. C.

The data given in Tables 61 to 72 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined by the conventions given above under "Terminology and Scaling Practices."

Table 1

Washington, D.C. (39.0°N, 77.5°W) September 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	5.0						2.8
01	270	4.4					1.7	2.7
02	270	4.2					1.2	2.8
03	270	4.1					2.3	2.7
04	280	3.6					2.3	2.7
05	280	3.4					2.2	2.8
06	250	4.6			110	1.7	2.9	3.0
07	250	6.3	230	3.8	110	2.5	2.9	3.1
08	270	7.4	230	(4.5)	110	(2.9)	3.4	3.0
09	280	7.8	220	4.8	110	(3.2)	3.6	3.0
10	280	8.0	210	4.9	110	3.5	3.8	2.9
11	290	8.5	210	5.0	110	(3.7)		2.9
12	310	8.6	220	5.2	110	(3.7)		2.8
13	310	9.0	220	5.1	110	(3.7)		2.8
14	300	9.0	220	5.0	110	(3.5)		2.8
15	300	8.8	220	4.8	110	(3.4)		2.8
16	280	8.6	230	4.3	110	3.0	2.8	2.9
17	260	8.4	230		110	2.5	2.7	2.9
18	240	(8.2)			120	1.7	2.4	3.0
19	240	(7.4)					1.7	(2.9)
20	240	(6.7)					1.8	(2.8)
21	250	6.0						2.8
22	260	5.5					2.2	2.8
23	270	5.1						2.8

Time: 75.0°W.
Sweep: 0.75 Mc to 11.5 Mc in 3.4 minutes.

Table 2 (Supersedes Table 2, CRPL-F25)

Fairbanks, Alaska (64.9°N, 147.8°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	308	4.6				1.0	3.5	2.7
01	305	4.4				1.1	3.3	2.6
02	310	4.5				1.3	3.3	2.6
03	310	4.5				1.7	3.0	2.6
04	315	4.8	300	3.2		1.8	3.2	2.6
05	350	5.4	272	3.6		2.2	3.2	2.6
06	390	5.8	250	4.0		2.5	3.2	2.6
07	365	6.2	238	4.2		2.8	3.2	2.7
08	372	6.4	235	4.5		3.0	3.4	2.6
09	368	6.8	230	4.6		3.2	3.3	2.6
10	390	6.6	225	4.8		3.3	3.3	2.6
11	390	6.7	225	4.8		3.3	3.0	2.6
12	390	6.6	228	4.9		3.3		2.6
13	405	6.6	230	4.9		3.3		2.6
14	468	6.5	225	4.8		3.2	2.9	2.7
15	375	6.3	232	4.6		3.1		2.7
16	340	6.2	240	4.4		2.9	2.8	2.7
17	265	6.2	250	4.3		2.7	3.2	2.8
18	262	6.3				2.3	3.1	2.8
19	260	6.0				2.0	3.0	2.9
20	270	5.8				1.7	3.0	2.9
21	270	5.4				1.5	2.9	2.8
22	270	5.0				1.1	3.2	2.8
23	285	4.5				1.0	3.3	2.7

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.

Table 3 (Supersedes Table 3, CRPL-F25)

Churchill, Canada (58.8°N, 94.2°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	295	4.8					6.0	2.8
01	310	5.1					5.6	2.7
02	320	4.8					3.8	2.8
03	300	4.7		3.3	130	2.7	3.8	2.8
04	310	4.6		3.2	145	2.7	3.6	2.9
05	320	4.7	285	3.6	130	2.5	3.1	2.9
06	320	5.1	270	3.8	130	2.8		3.0
07	315	5.6	245	4.2	120	3.0		3.0
08	350	6.0	230	4.5	120	3.2		2.9
09	360	6.4	230	4.7	120	3.3		2.9
10	360	6.4	230	4.8	120	3.3		2.8
11	380	6.6	230	4.8	120	3.4		2.8
12	380	6.8	210	5.0	120	3.5		2.8
13	400	6.8	230	5.1	120	3.5		2.6
14	385	6.8	230	5.0	120	3.4		2.7
15	380	7.4	230	4.9	120	3.3		2.7
16	350	7.3	230	4.7	120	3.2		2.8
17	335	7.4	240	4.3	125	3.0		2.8
18	320	6.9	260	4.0	130	3.0		2.8
19	290	6.6		3.6	130	2.8		2.8
20	300	6.0			135	3.0	2.6	2.9
21	295	5.9			130	2.6	3.6	2.8
22	290	5.8					5.2	2.8
23	300	5.6					6.0	2.7

Time: 90.0°W.
Sweep: 2.0 Mc to 16.0 Mc in one minute.

Table 4 (Supersedes Table 4, CRPL-F25)

Prince Rupert, Canada (54.3°N, 130.3°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	220	4.4					3.3	3.0
01	235	4.1					3.2	3.0
02	250	3.8					3.3	2.9
03	250	3.4					3.6	3.0
04	260	3.3					4.0	3.0
05	265	3.7	260	3.0			3.9	3.0
06	250	4.7	220	3.5	90	2.0	4.0	3.0
07	320	5.4	200	4.0	90	2.4	4.1	3.0
08	340	6.0	190	4.4	80	2.8	4.2	3.0
09	340	6.2	190	4.6	80	3.1	4.4	2.8
10	340	6.8	180	4.8	80	3.3	4.3	2.9
11	340	7.2	170	4.9	80	3.5	4.2	2.9
12	350	7.4	180	5.0	80	3.5	4.2	2.8
13	325	7.2	180	5.0	80	3.6	4.2	2.9
14	340	6.8	180	5.0	80	3.5	4.0	2.9
15	340	6.7	180	4.9	80	3.5	4.0	2.9
16	310	6.5	190	4.7	80	3.3	4.1	3.0
17	280	6.7	195	4.5	80	3.0	4.0	3.0
18	250	6.4	210	4.2	80	2.7	3.6	3.1
19	220	6.5	210	3.8	90	2.2	3.6	3.2
20	220	6.2	225		100	1.9	3.5	3.2
21	210	6.1					3.1	3.1
22	210	5.9					3.6	3.2
23	210	5.2					3.1	3.1

Time: 120.0°W.
Sweep: Manual operation.

Table 5

Swan River, Manitoba (52.1°N, 101.2°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	3.8					3.0	2.9
01	285	3.9					3.6	2.8
02	285	3.8					3.0	2.8
03	300	3.5					3.0	2.8
04	290	2.8					2.7	2.9
05	280	3.4					1.6	2.9
06	285	4.2			110	2.0	2.2	3.1
07	295	5.0	220		110	2.5		3.1
08	380	5.2	220	4.3	110	2.8		2.9
09	370	5.5	210	4.6	110	3.1		3.0
10	410	5.6	210	4.7	110	3.3		2.8
11	450	5.8	200	4.8	100	3.3		2.7
12	430	5.9	200	4.9	100	3.3		2.7
13	420	6.0	200	4.8	100	3.4		2.8
14	420	6.3	200	4.9	100	3.4		2.7
15	410	6.4	210	4.8	100	3.4		2.8
16	380	6.5	210	4.8	100	3.3		2.8
17	350	6.5	215	4.4	105	3.1		2.9
18	300	6.4	220		110	2.7		3.0
19	265	6.4	230		110	2.3	3.2	3.0
20	250	6.4					3.0	3.0
21	250	5.9					2.7	3.0
22	250	4.7					1.8	2.9
23	285	4.2					2.4	2.8

Time: 90.0°W.
Sweep: 1.2 Mc to 16.0 Mc in approximately two minutes.

Table 6 (Supersedes Table 5, CRPL-F25)*

Adak, Alaska (51.9°N, 176.6°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	285	5.4						2.8
01								
02								
03								
04								
05								
06	370	6.4	225	4.1	110	2.6	4.3	2.9
07	350	7.0	230	4.5	110	2.8	4.6	2.9
08	315	7.4	222	4.8	110	2.8	6.0	2.8
09	305	8.0	218	4.9	105	2.8	5.2	3.0
10	312	8.0	220	5.1	108	2.8	5.2	3.0
11								
12	310	8.1	208	5.1	105	2.9	5.2	3.0
13	318	7.6	225	5.1	110	3.0	4.5	3.1
14	305	7.6	222	5.1	105	2.8	5.0	3.1
15								
16								
17								
18	250	7.4			115		3.9	3.2
19	260	7.5					3.8	3.2
20	252	7.1					3.4	3.0
21	250	6.8					3.2	3.0
22	260	6.5					2.4	2.9
23	280	5.5					2.4	2.9

Time: 180.0°W.
Sweep: Manual operation.
*Observations taken: 06-10; 12-14; 18-00.

Table 7 (Supersedes Table 6, CRPL-F25)

St. John's, Newfoundland (47.6°N, 52.7°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	240	6.3						3.1
01	240	5.8						3.2
02	250	5.6					2.3	3.1
03	(250)	5.2					2.7	3.2
04	(230)	4.5						3.2
05	235	4.3					2.4	3.3
06	200	5.5	210	3.6			3.3	3.5
07	220	6.1	185	3.9	90	2.7	3.7	3.5
08	240	6.6	190	4.4	90	2.9	4.0	3.5
09	260	6.5	190	4.7	90	3.2	4.2	3.3
10	270	6.4	180	4.9	90	3.5	4.0	3.3
11	285	6.5	180	5.1	90	3.5	3.9	3.2
12	300	6.6	170	5.2	85	3.6	3.8	3.2
13	295	6.8	180	5.1	90	3.7	3.9	3.2
14	285	6.9	180	5.0	80	3.6	3.8	3.2
15	280	7.1	180	5.0	85	3.4	4.1	3.2
16	270	7.2	180	4.8	80	3.2	3.8	3.2
17	250	7.4	190	4.5	80	3.0	3.3	3.3
18	250	7.6	190	3.9	90	2.6	3.0	3.3
19	230	7.8	210	3.4			3.7	3.3
20	205	7.6					3.8	3.3
21	220	7.2					3.0	3.2
22	220	6.9					2.6	3.2
23	230	6.6					2.6	3.2

Time: 52.5°W.
Sweep: Manual operation.

Table 8 (Supersedes Table 7, CRPL-F25)

Ottawa, Canada (45.5°N, 75.8°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	5.2						2.8
01	310	4.9						2.8
02	300	4.5						2.9
03	300	3.8						2.8
04	320	3.5						3.0
05	290	3.7						3.0
06	240	5.0	230	3.3	125	2.5		3.0
07	250	5.8	220	4.1	120	2.8		2.9
08	280	6.0	210	4.6	110	3.1	[illegible].2	2.9
09	320	6.7	210	4.9	110	3.4		2.8
10	360	6.6	200	5.0	110	3.5		2.8
11	365	6.6	195	5.2	110	3.6		2.7
12	380	6.6	190	5.2	110	3.7		2.7
13	380	6.9	200	5.2	110	3.7		2.7
14	365	7.0	210	5.1	110	3.7		2.7
15	360	7.0	215	5.0	110	3.6		2.7
16	340	7.4	215	5.0	110	3.3		2.7
17	300	7.4	220	4.4	120	3.0		2.8
18	290	7.8	230	4.0	120	2.6		2.8
19	240	7.6						2.8
20	240	7.5						2.8
21	250	7.0						2.8
22	260	6.2						2.8
23	280	5.4						2.8

Time: 75.0°W.
Sweep: 1.93 Mc to 13.5 Mc. Manual operation.

Table 9 (Supersedes Table 8, CRPL-F25)

Boston, Massachusetts (42.4°N, 71.2°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	295	5.6						2.7
01	300	5.2						2.6
02	300	4.7					1.4	2.7
03	300	4.6					1.2	2.7
04	285	3.9					1.2	2.7
05	285	4.0						2.7
06	280	4.3						2.8
07	280	5.1					1.9	2.9
08	300	6.0			125	2.7		2.8
09	310	6.5			135	2.9		2.7
10	340	6.7						2.8
11	380	6.6						2.8
12	360	6.3						2.7
13	382	6.9						2.7
14	420	6.6						2.6
15	380	6.8						2.7
16	375	6.8						2.7
17	355	6.8						2.8
18	325	7.0			140	2.7		2.8
19	295	7.8						2.8
20	275	7.6						2.8
21	275	7.5						2.8
22	265	6.8						2.7
23	290	6.0						2.7

Time: 75.0°W.
Sweep: 0.85 Mc to 13.75 Mc in one minute.

Table 10

Peiping, China (39.9°N, 116.4°E) August 1946*

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		7.9						2.8
01		(8.5)						(2.8)
02		7.9						2.8
03		8.6						2.9
04		8.3						2.9
05		8.2						2.8
06		8.8						2.9
07		9.2						2.8
08		9.8						3.0
09		9.7						2.8
10		9.9						2.8
11		10.2						2.8
12		(10.2)						(2.9)
13		(10.0)						(3.1)
14		(10.2)						(2.8)
15		10.5						2.9
16		9.8						2.9
17		9.8						3.0
18		9.7						2.8
19		9.6						2.9
20		9.2						2.8
21		8.4						2.9
22		8.2						2.9
23		8.5						2.8

Time: 120.0°E.
*Data reported for 15th through 31st only.

Table 11 (Supersedes Table 9, CRPL-F25)

San Francisco, California (37.4°N, 122.2°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	5.3					3.4	2.6
01	280	5.2					3.0	2.6
02	280	5.0					3.2	2.7
03	280	4.8						2.7
04	280	4.8					2.6	2.7
05	280	4.4					2.7	2.8
06	250	5.8	230	3.8	110	2.3	3.2	3.0
07	290	7.1	220	4.4	110	2.7	3.8	2.9
08	300	7.7	220	4.9	110	3.2	4.2	2.8
09	325	8.2	210	5.0	110	3.5	4.2	2.7
10	340	8.4	200	5.4	100	3.7	4.2	2.8
11	340	8.5	200	5.5	110	3.8		2.8
12	350	8.4	220	5.5	100	3.8		2.8
13	350	8.7	220	5.4	110	3.9		2.8
14	330	8.5	220	5.3	100	3.8		2.8
15	320	8.4	220	5.0	105	3.7		2.9
16	315	8.2	220	4.9	100	3.4		2.9
17	280	7.8	220	4.3	100	3.0	3.7	3.0
18	260	7.8	240	3.8	105	2.5	3.4	3.0
19	240	7.2					3.2	3.1
20	240	7.1					3.1	2.9
21	240	6.3					4.2	2.9
22	250	5.8					3.7	2.8
23	280	5.4					3.7	2.6

Time: 120.0°W.
Sweep: 0.8 Mc to 12.0 Mc in six minutes.

Table 12

Tokyo, Japan (35.6°N, 139.6°E) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	7.6					3.4	2.8
01	280	7.2					3.2	2.8
02	260	7.0					3.2	2.9
03	260	6.6					2.8	2.9
04	260	6.2					3.0	2.9
05	260	6.0				1.8	2.6	2.9
06	240	7.7	220			2.2	3.4	3.2
07	240	8.9	220	4.5	100	2.9	4.2	3.3
08	240	8.6	210	4.7	100	3.2	5.0	3.3
09	270	8.8	190	5.0	100	3.6	4.8	3.1
10	280	9.0	200	5.5	100	3.8	5.0	3.0
11	290	9.2	180	5.5	100	3.9	4.8	3.0
12	305	9.3	200	5.6	100	3.9	5.1	3.0
13	310	9.4	200	5.5	100	3.9	5.3	2.9
14	310	9.6	210	5.5	100	3.8	4.8	2.9
15	290	9.4	220	5.2	100	3.6	4.8	3.1
16	280	9.2	210	5.0	100	3.4	5.0	3.1
17	270	9.1	220	4.4	100	3.0	5.4	3.1
18	250	9.0	235		100	2.4	4.7	3.1
19	250	8.9					4.8	3.0
20	250	8.1					5.7	2.9
21	270	8.0					5.0	2.8
22	280	7.9					5.4	2.8
23	270	7.8					4.4	2.8

Time: 135.0°E.
Sweep: Lower limit of frequency 2.0 Mc. Manual operation.

Table 13 (Supersades Tabla 10, CRPL-F25)

Baton Rouge, Louisiana (30.5°N, 91.2°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	5.5					3.2	2.9
01	300	5.3					2.8	3.0
02	290	5.2						3.0
03	290	5.0						3.0
04	290	4.6						3.0
05	290	4.4						3.0
06	290	5.1	250	3.6	130	2.3		3.0
07	285	6.6	240	4.1	120	2.7		3.2
08	300	7.5	240	4.4	120	3.1	4.4	3.0
09	310	7.5	230	4.7	120	3.3		3.0
10	340	8.0	220	4.9	120	3.5		2.9
11	340	8.3	230	5.1	120	3.6		2.9
12	350	8.5	230	5.2	120	3.7		2.9
13	350	9.2	230	5.2	120	3.7		2.9
14	340	9.5	240	5.2	120	3.6		3.0
15	330	9.1	240	5.0	120	3.6		3.0
16	300	9.4	240	4.8	120	3.3		3.0
17	295	9.2	250	4.3	120	3.0	2.8	3.1
18	270	8.5	250	3.6	130	2.4		3.1
19	250	7.6						3.1
20	250	6.6					2.6	3.1
21	250	6.1						3.0
22	260	5.8						3.0
23	290	5.6					3.0	2.9

Time: 90.0°W.
Sweep: 1.9 Mc to 9.8 Mc in three minutes, thirty seconds.

Table 14

Chungking, China (29.4°N, 106.8°E) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	9.0					3.3	2.7
01	250	8.9					2.9	2.8
02	240	8.4					3.0	2.9
03	230	7.5					3.2	3.0
04	220	6.2						2.9
05	260	5.8					2.6	2.9
06	240	7.8			100		3.5	3.0
07	220	8.2	240		80	3.0	4.3	3.2
08	240	8.6	220		90	3.4	5.0	3.0
09	280	9.0	220		80		5.8	2.9
10	320	9.8	220		95		6.1	2.7
11	335	10.5	200	5.8			6.0	2.7
12	320	12.5	200	5.8			7.0	2.7
13	330	13.2	200	5.8			6.1	2.8
14	320	14.0	200	5.6			5.9	2.9
15	300	14.4	220	5.4			5.8	2.8
16	280	12.6	220	5.1	100	3.5	5.8	2.9
17	260	12.0	220				4.6	3.0
18	240	11.6					4.7	3.0
19	220	10.4					3.9	3.1
20	240	10.1					4.0	2.8
21	240	9.7					4.0	2.9
22	250	9.8					3.8	2.8
23	250	9.8					4.0	2.8

Time: 105.0°E.
Sweep: 2.1 Mc to 16.1 Mc in fifteen minutes.

Table 15

San Juan, Puerto Rico (18.4°N, 66.1°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		7.0						2.8
01		6.8						2.8
02		6.4						2.9
03		6.2						2.8
04		5.9						2.8
05		5.8						2.9
06		5.5						2.9
07	270	7.2						3.1
08	280	7.8				3.1		3.0
09	325	8.4	220	4.5		3.3		2.7
10	380	9.0	235	5.0		3.6		2.7
11	400	9.6	230	5.2		3.8		2.6
12	390	10.0	240	5.2		3.9		2.7
13	390	10.3	230	5.2		4.0		2.7
14	390	10.4	240	5.2		3.8		2.7
15	380	10.4	250	5.1		3.7		2.7
16	350	10.8	240	4.8		3.4		2.8
17	340	10.3	250	4.0		3.1		2.8
18	300	9.9						2.9
19	280	9.0						3.0
20		8.0						2.8
21		7.4						2.8
22		7.0						2.8
23		7.0						2.7

Time: 60.0°W.
Sweep: 2.8 Mc to 14.0 Mc in eight minutes.

Tsbla 16 (Suparaades Table 12, CRPL-F25)

Trinidad, Brit. West Indies (10.6°N, 61.2°W) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	270	9.4						2.9
01	250	8.8						3.0
02	250	8.4						3.0
03	250	8.1						3.0
04	240	7.0						3.1
05	240	6.2						3.1
06	260	6.4					2.2	3.1
07	230	7.4			110	2.5	3.0	3.3
08	245	8.1	220	4.6	110	3.2	3.6	3.1
09	300	8.9	220	5.4	110	3.6	4.0	2.8
10	320	10.2	220	5.6	110	3.9	4.4	2.7
11	340	11.3	220	5.6	110	4.0	4.6	2.7
12	340	12.0	220	5.7	115	4.2	4.6	2.7
13	340	12.3	220	5.6	110	4.1	4.5	2.7
14	330	12.6	220	5.5	110	4.0	5.0	2.8
15	320	12.8	220	5.4	120	3.8	5.3	2.8
16	310	12.4	230	5.2	110	3.4	5.0	2.8
17	280	12.0	220	4.4	110	2.8	4.8	2.8
18	260	11.0			110	2.1	4.0	2.8
19	270	10.8					3.3	2.8
20	270	11.0					3.0	2.8
21	260	11.2					2.6	2.8
22	270	10.3					1.8	2.8
23	260	10.0						2.8

Time: 60.0°W.
Sweep: Manual operation.

Table 17

Huancayo, Peru (12.0°S, 75.3°E) August 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	220	8.0						3.1
01	220	7.3						3.1
02	230	6.9						3.2
03	230	5.5						3.2
04	240	4.3						3.1
05	250	3.6						3.1
06	290	4.4				1.4	2.8	2.9
07	250	7.4				2.5	5.5	3.0
08	240	9.3	220	5.0		3.3	8.4	2.7
09	300	9.6	220	5.2		3.6	8.4	2.5
10	310	9.3	210	5.2		3.8	8.4	2.5
11	320	9.1	210	5.3		4.0	8.4	2.4
12	320	9.3	200	5.3		4.0	8.9	2.3
13	320	9.3	200	5.2		4.0	8.4	2.3
14	310	9.3	200	5.1		3.8	8.4	2.3
15	225	9.3	210	5.0		3.5	8.4	2.3
16	230	9.2				3.2	8.4	2.3
17	250	9.3				2.4	5.5	2.4
18	300	9.1				1.3	2.4	2.4
19	370	8.2						2.3
20	330	8.2						2.4
21	260	8.4						2.7
22	230	8.3						2.9
23	230	7.9						3.0

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutee.

Table 18

Peiping, China (39.9°N, 116.4°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		8.1						(2.7)
01		7.7						(3.0)
02		7.5						(2.9)
03		7.7						(2.9)
04		7.7						(2.7)
05		7.8						(2.9)
06		8.5						(3.0)
07		8.7						(3.0)
08		8.8						(2.9)
09		9.2						2.8
10		9.2						(2.9)
11		9.7						(3.0)
12		10.0						(3.0)
13		10.1						(2.9)
14		(10.0)						(3.0)
15		(10.0)						(2.9)
16		10.5						(2.9)
17		(9.8)						(2.9)
18		(9.1)						(3.0)
19		8.9						(2.9)
20		8.3						(3.0)
21		(8.2)						(2.9)
22		8.1						2.7
23		7.7						2.8

Time: 105.0°E.

Table 19

Chungking, China (29.4°N, 106.8°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	260	9.0					3.8	2.9
01	260	8.7					3.3	3.0
02	260	7.5					3.4	2.9
03	250	6.6					3.4	2.9
04	240	6.9					2.9	3.0
05	280	5.8					3.6	2.9
06	260	7.2	220	4.1	110	2.8	4.4	3.0
07	255	8.2	240	4.8	100	3.1	5.6	3.0
08	280	8.5	230	5.0	100	3.5	7.1	2.9
09	280	8.2	220	5.0	100	3.9	6.5	3.0
10	320	9.0	230	5.5	100	4.2	6.6	2.8
11	320	9.6	220	5.5	100	4.4	7.2	2.8
12	320	10.5	220	5.6	90	4.4	7.0	2.9
13	305	11.0	200	5.7	90	4.4	8.0	2.9
14	315	11.5	215	5.4	100	4.2	7.0	2.8
15	300	11.2	200	5.2			6.5	2.9
16	280	10.8	215	5.0	100	3.9	5.1	3.0
17	250	10.4	240	4.6	95	3.1	5.8	3.1
18	240	9.6					5.6	3.1
19	240	9.4					4.0	3.1
20	245	9.4					4.4	2.9
21	260	9.3					4.2	2.9
22	260	9.2					4.1	2.9
23	260	9.2					3.9	3.0

Time: 105.0°E.
Sweep: 2.1 Mc to 16.1 Mc in fifteen minutes.

Table 20

Christchurch, N.Z. (43.5°S, 172.6°E) July 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	290	3.6					2.6	
01	270	3.4					2.9	
02	270	3.3					2.8	
03	260	3.2					2.8	
04	250	3.1					3.0	
05	240	2.5					3.0	
06	260	2.6					2.9	
07	230	3.2					3.0	
08	220	5.8				1.9	3.0	
09	220	7.5				2.6	3.0	
10	230	8.3	230	4.3		2.9	4.4	
11	230	8.4	220	4.3		3.0	5.0	
12	245	9.0	220	4.3		3.2	4.8	
13	250	8.9	230	4.3		3.1	5.0	
14	240	8.4	220	4.2		3.0	4.6	
15	230	8.2	230	3.6		2.7	3.6	
16	220	7.7				2.2	3.0	
17	235	7.0				1.4	3.0	
18	230	6.2					2.8	
19	230	5.5					2.8	
20	240	4.6					2.6	
21	260	3.9					2.8	
22	270	3.8					3.0	
23	270	3.6					2.8	

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc.

Table 21

Burghead, Scotland (57.7°N, 3.5°W) June 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		6.6						
01		6.2						
02		5.9						
03		5.8						
04		5.8						
05		6.0						
06		6.2						
07		6.4						
08		6.6						
09		6.8						
10		7.0						
11		7.0						
12		6.9						
13		6.8						
14		6.9						
15		6.8						
16		6.7						
17		6.9						
18		7.0						
19		7.0						
20		7.0						
21		6.8						
22		7.0						
23		6.6						

Time: 0.0°.
Sweep: 1.0 Mc to 13.0 Mc. Manual operation.

Table 22

Slough, England (51.5°N, 0.6°W) June 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	381	6.2					1.4	2.6
01	378	5.9					2.2	2.6
02	384	5.5					1.4	2.6
03	369	5.0					1.4	2.6
04	360	5.2		3.1			1.8	2.6
05	347	5.6		3.6			1.8	2.7
06	337	6.0		4.1				2.8
07	347	6.4		4.5				2.8
08	338	6.6		4.7				2.8
09	333	6.9		4.9			4.7	2.7
10	346	7.0		5.0			4.3	2.7
11	348	7.1		5.0			4.8	2.8
12	355	6.8		5.1			4.0	2.7
13	360	6.8		5.1			3.8	2.7
14	344	6.8		5.1			3.6	2.8
15	345	6.8		4.9				2.8
16	333	7.0		4.8				2.8
17	340	7.0		4.6				2.8
18	326	7.0		4.1				2.9
19	319	7.3		3.5			3.8	2.9
20	324	7.1					3.3	2.9
21	354	7.2					1.8	2.8
22	360	6.9					1.8	2.7
23	375	6.6					1.9	2.6

Time: 0.0°.
Sweep: 0.5 Mc to 16.0 Mc in four minutes.
*Median values except F_2-M3000, which are computed from average values, and f°F1, which are average values from tabular summaries.

Table 23 (Supersedes Table 17, CRPL-F24)

Okinawa I. (26.3°N, 127.8°E) June 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		7.8					6.0	2.8
01		7.9					5.6	2.7
02		7.9					5.3	2.8
03		7.1					5.1	2.8
04		6.8					4.7	2.9
05		6.6					4.6	2.8
06		6.8					5.0	3.0
07		7.4				2.6	5.1	3.1
08		7.4				3.2	6.2	2.9
09		8.1		(5.2)		3.5	7.4	2.8
10		8.3		5.2		3.7	7.2	2.6
11		8.6		5.2		3.9	7.5	2.5
12		9.8		5.4		4.1	6.3	2.6
13		10.6		5.2		4.0	6.8	2.7
14		10.8		5.3		3.9	5.6	2.8
15		11.0		5.2		3.6	5.5	2.8
16		10.8		5.1		3.4	5.3	2.8
17		10.8		4.9		3.2	6.2	2.8
18		10.6		(4.4)		2.6	6.3	3.0
19		10.2					5.5	3.0
20		8.6					5.6	2.8
21		8.1					4.6	2.6
22		8.3					4.0	2.6
23		8.2					3.8	2.6

Time: 135.0°E.
Sweep: Manual operation.

Table 24 (Supersedes Table 10, CRPL-F23)

Maui, Hawaii (20.8°N, 156.5°W) June 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	7.5						2.7
01	300	7.3						2.6
02	300	7.4						2.8
03	300	7.1						2.7
04	300	6.4						2.8
05	310	6.0						2.6
06	285	6.0	295					2.6
07	260	6.8	250	4.3		2.6		2.6
08	350	7.3	250	4.8		3.1		2.4
09	410	7.8	250	5.0				2.4
10	440	9.1	220	5.2		3.8		2.4
11	450	9.6	220	5.2				2.4
12	420	10.2	220	5.3				2.5
13	400	10.9	230	5.3				2.5
14	400	11.4	240	5.2				2.6
15	370	12.2	220	5.1		3.5		2.7
16	350	12.2	240	4.9		3.4		2.7
17	320	12.0	250	4.8		3.0	4.4	2.8
18	290	12.0	250				3.8	2.9
19	250	10.4						2.9
20	270	9.4					3.4	2.8
21	285	9.0						2.7
22	300	8.4						2.6
23	300	8.1						2.7

Time: 150.0°W.
Sweep: 2.2 Mc to 16.0 Mc in one minute.

Table 25

Colombo, Ceylon (6.6°N, 80.0°E) June 1946*

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	**fEs	F2-M3000
00							(2.6)	
01							(3.6)	
02								
03								
04		(4.0)						
05		(3.5)						
06		(5.4)						
07		(8.2)					(3.0)	
08		(9.9)					(4.2)	(2.9)
09		(10.6)					(3.8)	
10		(10.8)						(2.6)
11		(10.0)						
12		(10.0)						(2.6)
13		(9.5)						
14		(9.4)					(2.7)	(2.4)
15		(9.8)						
16		(10.4)					(3.3)	
17		(11.2)					(3.3)	
18							(3.0)	
19								
20								
21								
22								
23								

Time: Local.
Sweep: 2.0 Mc to 16.0 Mc in one minute.
*Data for 1st through 9th only.
**Data sheet labeled "Extent of E."

Table 26

Burghead, Scotland (57.7°N, 3.5°W) May 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		6.6						
01		6.3						
02		5.6						
03		5.4						
04		5.3						
05		5.2						
06		5.5						
07		5.8						
08		6.2						
09		6.4						
10		6.7						
11		6.8						
12		7.0						
13		6.9						
14		7.0						
15		7.3						
16		7.5						
17		7.5						
18		7.5						
19		7.5						
20		7.5						
21		7.4						
22		6.8						
23		6.5						

Time: 0.0°.
Sweep: 1.0 Mc to 13.0 Mc. Manual operation.

Table 27

Slough, England (51.5°N, 0.6°W) May 1946

Time	h'F2	f°F2	h'F1	*f°F1	h'E	f°E	fEs	*F2-M3000
00	390	6.0					1.2	2.5
01	396	5.7					1.0	2.5
02	395	5.4					1.0	2.5
03	387	4.8					1.2	2.5
04	360	4.7		2.2			1.2	2.6
05	342	5.1		3.3				2.7
06	344	5.4		4.0				2.8
07	330	6.0		4.5				2.8
08	324	6.4		4.6				2.8
09	336	7.0		4.8				2.8
10	339	7.0		5.0				2.8
11	346	6.8		5.1				2.8
12	336	7.2		5.2				2.8
13	343	7.2		5.2				2.8
14	340	7.3		5.1				2.8
15	333	7.4		5.0				2.8
16	330	7.5		4.7				2.9
17	322	7.7		4.4				2.9
18	315	7.9		3.9				3.0
19	316	8.0		4.0				3.0
20	320	7.6						2.9
21	346	7.2						2.8
22	380	6.8						2.6
23	387	6.2						2.6

Time: 0.0°.
Sweep: 0.5 Mc to 16.0 Mc in four minutes.
*Median values except F2-M3000, which are computed from average values, and f°F1, which are average values from tabular summaries.

Table 28

Colombo, Ceylon (6.6°N, 80°E) May 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	*fEs	F2-M3000
00		(9.6)						(3.1)
01		8.6						
02		(6.8)						(3.2)
03		(6.6)						
04		(6.2)						3.3
05		4.8						
06		5.8						3.1
07		9.2					3.4	
08		10.7					4.7	2.9
09		11.7					4.8	
10		11.2					4.8	2.5
11		10.5					4.7	
12		10.2						2.4
13		10.5						
14		10.8						2.4
15		11.0					4.2	
16		10.9					3.8	2.6
17		(11.5)					3.4	
18		(10.2)					3.4	
19		(10.8)						
20		(10.4)					2.6	
21		(10.6)					2.8	
22		(10.6)					3.0	
23		(10.2)					(2.8)	

Time: Local.
Sweep: 2.0 Mc to 16.0 Mc in one minute.
*Data sheet labeled "Extent of E."

Table 29 (Supersedes Table 17, IRPL-F21)

Christchurch, N. Z. (43.5°S, 172.6°E) March 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	280	6.4					2.7	
01	280	6.0					2.7	
02	270	5.8					2.7	
03	270	5.3					2.7	
04	280	4.8					2.8	
05	250	4.0					2.7	
06	260	4.5				1.5	2.5	
07	250	6.3	240	3.7		2.3	2.6	
08	255	7.4	230	4.4		2.8		
09	270	8.6	220	4.7		3.1	4.0	
10	260	8.8	210	4.8		3.3		
11	280	9.6	210	5.0		3.5	4.2	
12	280	10.3	220	5.0		3.6	4.1	
13	280	10.0	220	5.3		3.6	4.4	
14	270	9.7	230	5.0		3.5		
15	260	9.5	230	4.6		3.3		
16	250	9.6	230	4.3		3.0		
17	240	9.5	240	3.8		2.5	2.8	
18	240	9.1				1.8	2.7	
19	240	8.7					2.8	
20	250	8.0					2.7	
21	250	7.3					2.7	
22	270	6.9					2.6	
23	290	6.7					2.7	

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc.

Table 30 (Supersedes Table 56, IRPL-F22)

Bukhta Tikhaja, U.S.S.R. (80.3°N, 52.7°E) January 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	250	3.0						
01	250	3.3						
02								
03								
04								
05								
06								
07								
08								
09								
10	300	3.3						
11								
12	270	3.3						
13								
14	270	4.2						
15								
16								
17								
18								
19	250	4.1						
20								
21								
22	220	4.3						
23								

Time: 60.0°E.
Sweep: 1.5 Mc to 9.5 Mc in five to ten minutes. Manual operation.

Table 31

Leningrad (WETKAS), U.S.S.R. (60.0°N, 30.3°E) January 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	400	2.4						
01	370	2.2						
02	350	2.6						
03	370	2.4						
04	360	2.3						
05	350	2.6						
06								
07								
08	300	3.3						
09	230	4.8						
10	230	5.8						
11	220	6.0						
12	230	6.2						
13	220	6.6						
14	220	6.2						
15	220	5.8						
16	220	5.5						
17								
18								
19								
20								
21								
22								
23								

Time: 30.0°E.
Sweep: Manual operation.

Table 32

Tomsk, U.S.S.R. (56.5°N, 84.9°E) January 1946

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	300	2.6						
01	290	2.6						
02	290	2.6						
03	300	2.6						
04	310	2.6						
05	300	2.7						
06	280	2.6						
07	280	2.4						
08	260	3.1						
09	240	5.4			120	1.8		
10	230	6.5			110	2.1		
11	230	6.8				2.3		
12	220	7.4			100	2.4		
13	220	7.4			100	2.4		
14	220	7.4			110	2.3		
15	210	6.5			100	2.2		
16	220	6.1			100	2.0		
17	220	5.2						
18	230	4.0						
19	250	2.6						
20	280	2.3						
21	290	2.3						
22	310	2.4						
23	300	2.4						

Time: 90.0°E.
Sweep: Manual operation. 1.2 Mc to 10.0 Mc in five to ten minutes.

Table 33

Moscow, U.S.S.R. (55.9°N, 37.7°E) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00		2.5						
01		2.8						
02		2.8						
03		2.7						
04		2.5						
05		2.4						
06		2.5						
07		2.8						
08		4.6						
09		6.2						
10		6.6						
11		7.0						
12		7.0						
13		6.7						
14		6.5						
15		6.3						
16		5.3						
17		4.0						
18		3.0						
19		2.7						
20		2.4						
21		2.4						
22		2.4						
23		2.4						

Time: 30.0°E.
Sweep: 1.8 Mc to 10.0 Mc in ten minutes. Manual operation.

Table 34

Moscow (Krasnaja Pakhra), U.S.S.R. (55.5°N, 37.3°E) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	300	2.6						
01	280	2.6						
02	260	2.7						
03	290	2.6						
04	280	2.5						
05	260	2.4						
06	260	2.6						
07	230	2.8						
08	200	4.8						
09	210	6.2						
10	210	6.8						
11	200	7.2						
12	200	7.5						
13	200	7.5						
14	200	6.6						
15	200	6.1						
16	200	5.2						
17	200	3.8						
18	220	2.8						
19	260	2.4						
20	280	2.3						
21	260	2.3						
22	260	2.4						
23	270	2.4						

Time: 30.0°E.
Sweep: 2.2 Mc to 16.0 Mc in fifty seconds.

Table 35

Alma Ata, U.S.S.R. (43.2°N, 76.9°E) January 1946

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	200	3.2						
01	200	3.3						
02	200	3.1						
03	200	3.4						
04	200	3.3						
05	200	3.6						
06	200	4.1						
07	200	4.8			100	2.4		
08	200	5.8			100	2.4		
09	200	6.6			100	2.9		
10	200	7.0			100	3.2		
11	200	7.0			120	3.0		
12	200	7.7			110	3.1		
13	200	7.2			100	2.7		
14	200	7.2			100	3.2		
15	200	6.7			100	3.2		
16	200	6.9			100	3.2		
17	200	5.6			120	2.9		
18	200	4.7						
19	200	4.0						
20	200	3.6						
21	200	3.6						
22	200	3.3						
23	200	3.3						

Time: 75.0°E.
Sweep: 2.0 Mc to 14.0 Mc in ten to twenty minutes. Manual operation.

Table 36 (Supersedes Table 53, IRPL-F20)

Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) December 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	270	2.7						2.9
01	270	2.8						2.8
02	260	2.8						2.9
03	260	2.8						2.8
04	270	2.7						2.9
05	260	2.6						2.9
06	250	2.3						3.1
07	240	2.4						3.0
08	200	4.0						3.2
09	190	6.2			110	1.8		3.5
10	180	7.2			110	2.1		3.6
11	190	7.6			100	2.3		3.6
12	190	7.3			100	2.4		3.6
13	190	7.3			100	2.2		3.6
14	190	7.1			110	2.0		3.7
15	180	5.7			130	1.8		3.6
16	190	5.4					2.2	3.4
17	190	4.3					2.7	3.4
18	200	3.3						3.3
19	210	2.8						3.4
20	240	2.4						3.0
21	280	2.3						3.0
22	270	2.4						2.9
23	270	2.6						2.9

Time: 60.0°E.
Sweep: 1.5 Mc to 14.0 Mc in five to thirteen minutes. Manual operation.

Table 37 (Supersedes Table 60, IRPL-F20)

Sverdlovsk, U.S.S.R. (56.7°N, 61.1°E) November 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	285	2.7						2.8
01	280	2.8						2.9
02	265	2.8						2.9
03	270	2.9						2.9
04	270	2.7						2.9
05	250	2.6						2.9
06	230	2.7						3.1
07	200	3.8						3.2
08	190	6.0			130	1.8		3.6
09	180	7.6			110	2.1		3.6
10	190	8.6			100	2.4		3.6
11	190	8.7			100	2.5		3.6
12	190	8.6			100	2.5		3.6
13	190	8.5			100	2.5		3.5
14	190	7.9			100	2.4		3.6
15	190	7.3			110	2.0		3.6
16	200	6.3					2.2	3.6
17	200	5.4						3.5
18	200	4.2						3.3
19	200	3.5						3.3
20	225	2.8						3.2
21	240	2.6						3.2
22	260	2.6						2.9
23	275	2.6						2.9

Time: 60.0°E.
Sweep: 1.5 Mc to 14.0 Mc in five to thirteen minutes. Manual operation.

Table 38 (Supersedes Table 33, IRPL-F20)*

Tomsk, U.S.S.R. (56.5°N, 84.9°E) October 1945

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	270	3.2						
01	280	3.1						
02	280	3.0						
03	280	3.0						
04	260	2.9						
05	270	2.9						
06	260	3.0						
07	240	4.6			100	1.4		
08	230	6.0			110	2.0		
09	250	6.8			100	2.4		
10	260	7.7			100	2.7		
11	270	8.0			100	2.9		
12	260	8.2			100	2.9		
13	240	8.4			110	2.9		
14	240	8.4			100	2.7		
15	240	8.2			100	2.6		
16	240	7.9			100	2.3		
17	230	7.2			100	1.8		
18	220	6.7						
19	220	5.6						
20	230	5.1						
21	240	4.2						
22	250	3.6						
23	270	3.3						

Time: 90.0°E.
Sweep: Manual operation. 1.2 Mc to 10.0 Mc in five to ten minutes.
*Average values.

Table 39*

Trinidad, Brit. West Indies (10.6°N, 61.2°W) February 1944**

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	274	3.5						
01	242	3.8						
02	210	3.7						
03	225	3.4						
04	257	2.5			110	2.7		
05	293	2.4						
06	268	2.6						
07	236	4.7			105	2.5		
08	261	5.3		4.4	115	2.5		
09	312	5.9	243	4.2	114	2.9		
10	326	7.2	224	4.4	113	3.2		
11	302	8.2	229	4.4	114	3.4		
12	294	8.4	229	4.4	115	3.4		
13	292	8.6	223	4.4	114	3.4		
14	300	7.8	222	4.4	113	3.3		
15	292	7.6	226	4.3	114	3.1		
16	283	7.6	242	4.0	115	[illegible]		
17	262	7.4		3.4	116	[illegible]		
18	232	6.3			111	[illegible]		
19	240	5.0			112	4.4		
20	238	[illegible]			110	[illegible]		
21	285	3.1			112	4.0		
22	306	2.8			11[illegible]	3.4		
23	300	3.0						

Time: [illegible].
Sweep: [illegible] Mc to [illegible] Mc [illegible].
*Average values.
**15th through 29th [illegible].

Table 40*

Fairbanks, Alaska (64.9°N, 147.8°W) September 1943

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	F2-M3000
00	368	2.0			101		5.1	
01	362	2.2			99		5.0	
02	347	2.4			99		4.9	
03	341	2.4			100		5.0	
04	344	2.3			99	1.5	4.4	
05	330	2.5			106	1.6	3.6	
06	332	3.0	282	2.9	107	2.0	3.5	
07	374	3.3	249	3.2	110	2.2	3.3	
08	471	3.6	247	3.4	112	2.4	3.1	
09	475	3.8	237	3.5	111	2.5	3.0	
10	454	3.9	231	3.5	111	2.6	2.7	
11	456	4.1	229	3.6	110	2.7	2.7	
12	431	4.2	234	3.7	116	2.7	2.7	
13	444	4.2	229	3.7	112	2.6		
14	421	4.2	242	3.6	110	2.5	3.9	
15	377	4.1	260	3.4	115	2.4	3.6	
16	331	4.0	246	3.3	114	2.1	3.3	
17	296	3.6	261	3.0	113	1.9	3.7	
18	279	3.2			112	1.5	4.3	
19	289	2.6			109	1.3	4.3	
20	320	2.3			106	1.1	4.3	
21	337	2.2			102		4.6	
22	357	1.7			100		4.7	
23	347	1.9			101		5.5	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 41*

Fairbanks, Alaska (64.9°N, 147.8°W) August 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	340	2.5			99		5.6	
01	332	2.6			100		5.6	
02	344	2.8			99		5.6	
03	339	2.9			100	1.9	5.2	
04	353	3.0	325	2.8	101	2.0	5.4	
05	414	3.4	277	3.0	102	2.2	5.6	
06	482	3.6	240	3.2	100	2.3	4.4	
07	478	3.8	240	3.3	104	2.6	4.2	
08	477	4.0	226	3.6	106	2.7	4.6	
09	509	4.1	218	3.7	105	2.8	5.9	
10	467	4.2	220	3.7	106	2.9	6.8	
11	431	4.3	216	3.8	106	2.9	6.7	
12	482	4.2	223	3.8	107	3.0	5.3	
13	477	4.2	226	3.8	106	2.9	5.9	
14	489	4.2	226	3.8	108	2.8	5.8	
15	486	4.2	231	3.7	112	2.7	3.6	
16	437	4.2	239	3.6	113	2.6	4.5	
17	370	4.1	243	3.5	111	2.3	5.2	
18	327	3.8	242	3.2	118	2.1	4.3	
19	282	3.3			116	1.9	4.7	
20	292	2.9			110	1.6	5.0	
21	310	2.7			107	1.4	4.8	
22	322	2.6			104		5.4	
23	342	2.7			100		6.1	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 42*

Fairbanks, Alaska (64.9°N, 147.8°W) July 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	296	2.9			103	1.2	4.7	
01	303	3.1			102	1.2	5.2	
02	308	3.2	265	2.4	103	1.3	5.8	
03	313	3.5	259	2.8	104	1.6	5.4	
04	363	3.6	236	3.0	101	1.8	4.8	
05	382	3.8	228	3.2	102	2.1	5.0	
06	428	4.0	221	3.5	101	2.4	5.1	
07	431	4.1	219	3.7	102	2.6	4.4	
08	479	4.1	206	3.7	102	2.7	3.9	
09	458	4.3	207	3.8	103	2.8	3.2	
10	457	4.3	209	4.0	103	2.9	4.5	
11	493	4.3	206	3.8	104	3.0	2.9	
12	464	4.4	209	3.9	104	3.0	3.1	
13	470	4.4	205	3.9	103	2.9	3.4	
14	468	4.3	212	3.8	104	2.8	4.0	
15	450	4.3	212	3.8	104	2.8	3.8	
16	461	4.2	219	3.7	104	2.6	5.8	
17	390	4.3	222	3.4	106	2.4	5.4	
18	357	4.2	224	3.4	106	2.2	4.7	
19	292	3.8	241	3.2	108	2.0	4.5	
20	275	3.5	250	2.9	108	1.8	5.2	
21	287	3.3	295	3.3	107	1.5	5.0	
22	292	2.9			105	1.3	4.9	
23	287	2.9			105	1.2	5.4	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 43*

Fairbanks, Alaska (64.9°N, 147.8°W) June 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	299	3.4			99	1.2	5.5	
01	289	3.5			97	1.4	5.6	
02	296	3.6	265	2.6	98	1.6	5.5	
03	333	3.8	259	3.0	98	1.8	4.8	
04	350	4.0	246	3.1	96	2.1	6.1	
05	379	4.1	229	3.4	97	2.4	5.7	
06	413	4.1	223	3.6	98	2.7	5.9	
07	447	4.2	209	3.7	97	2.8	6.1	
08	471	4.2	203	3.8	97	2.9	6.1	
09	475	4.3	191	3.9	96	3.0	7.2	
10	476	4.4	206	3.9	97	3.1	4.6	
11	459	4.4	204	4.0	97	3.1	5.6	
12	466	4.5	208	4.1	98	3.1	4.7	
13	457	4.5	210	4.1	98	3.1	3.4	
14	453	4.5	208	4.0	100	3.0	3.3	
15	432	4.5	214	4.0	103	3.0	3.0	
16	406	4.5	215	3.9	101	2.8	4.1	
17	365	4.6	227	3.8	103	2.6	6.8	
18	334	4.3	237	3.6	103	2.4	4.1	
19	321	4.2	244	3.3	101	2.2	6.0	
20	282	4.0	247	3.1	100	2.0	5.2	
21	276	3.9	238	2.7	99	1.7	5.1	
22	274	3.8			103	1.5	4.6	
23	283	3.6			103	1.3	4.0	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 44*

Fairbanks, Alaska (64.9°N, 147.8°W) May 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	295	2.9			104	1.2	4.2	
01	309	3.0			103	1.2	4.4	
02	328	3.4	290	2.6	103	1.4	4.3	
03	332	3.7	265	2.8	101	1.7	4.7	
04	377	3.8	260	3.0	102	1.9	5.3	
05	428	4.0	247	3.2	102	2.2	5.1	
06	435	4.1	243	3.4	102	2.5	4.2	
07	439	4.1	222	3.5	104	2.7	4.5	
08	464	4.1	223	3.7	103	2.8	5.0	
09	484	4.2	219	3.8	103	2.9	5.3	
10	506	4.2	221	3.9	104	3.0	4.7	
11	491	4.3	218	4.0	105	3.0	8.3	
12	453	4.4	220	4.0	104	3.0	9.1	
13	464	4.5	216	4.0	103	3.0	8.7	
14	438	4.4	214	3.9	101	2.8	7.9	
15	427	4.5	231	3.9	103	2.8	6.4	
16	395	4.4	227	3.8	106	2.6	4.2	
17	364	4.4	232	3.6	108	2.5	4.0	
18	309	4.3	236	3.3	109	2.2	5.3	
19	282	4.2	240	3.1	109	2.0	4.9	
20	279	4.0			111	1.7	4.7	
21	266	3.7			107	1.4	4.5	
22	271	3.2			111	1.2	4.2	
23	288	3.0			104	1.2	3.9	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 45*

Fairbanks, Alaska (64.9°N, 147.8°W) April 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	296	2.2			102	1.0	4.6	
01	323	2.2			104	0.9	4.2	
02	329	2.4			103	1.2	4.4	
03	329	2.7			104	1.3	4.5	
04	320	3.1			105	1.6	4.6	
05	377	3.4	286	3.0	106	1.9	5.2	
06	492	3.7	254	3.2	110	2.2	5.0	
07	489	3.8	244	3.4	109	2.4	4.2	
08	482	4.0	233	3.6	110	2.6	4.2	
09	497	4.1	225	3.7	110	2.7	3.6	
10	573	4.3	220	3.8	110	2.8		
11	478	4.4	221	3.8	108	2.9		
12	460	4.5	226	3.9	112	2.8		
13	436	4.6	226	3.9	110	2.8	3.6	
14	406	4.6	224	3.9	111	2.8	3.0	
15	378	4.7	239	3.8	114	2.6	3.8	
16	343	4.6	237	3.6	116	2.4	3.8	
17	313	4.4	248	3.3	114	2.2	3.4	
18	285	4.3	253	2.9	111	1.9	7.5	
19	270	4.0			112	1.5	5.5	
20	280	3.6			109	1.1	5.0	
21	280	3.2			105	0.9	5.4	
22	284	3.1			105	0.9	4.4	
23	289	2.6			104	0.9	4.2	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 46*

Fairbanks, Alaska (64.9°N, 147.8°W) March 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	326	1.8			95		4.7	
01	348	1.9			95		4.6	
02	354	2.1			94		4.7	
03	346	2.2			93		4.0	
04	346	2.2			94	1.2	3.9	
05	338	2.5			94	1.2	3.8	
06	314	2.9			97	1.7	3.6	
07	315	3.3	250	3.1	102	2.1	3.1	
08	337	3.7	246	3.3	109	2.3	3.6	
09	342	4.1	233	3.4	102	2.5	2.7	
10	350	4.3	230	3.5	103	2.6	2.7	
11	360	4.6	226	3.6	103	2.6	3.2	
12	358	4.8	229	3.7	110	2.7	4.6	
13	323	4.9	237	3.6	110	2.6		
14	307	5.0	237	3.5	108	2.5	3.9	
15	291	5.1	245	3.4	108	2.4	6.0	
16	271	5.1	242	3.2	108	2.1	4.0	
17	261	4.8	247	2.8	109	1.9	4.8	
18	262	4.4			106	1.4	5.2	
19	262	3.5			101	1.1	3.2	
20	276	2.6			97	0.9	2.8	
21	296	2.1			98	0.8	3.9	
22	301	1.8			95		4.1	
23	299	1.9			96		4.6	

Time: 150.0°W.
Swaap: 16.0 Mc to 0.5 Mc in fiftaan minutes.
*Avaraga valuas.

Table 47*

Fairbanks, Alaska (64.9°N, 147.8°W) February 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	313	1.9			98		5.1	
01	332	2.1			98		5.0	
02	355	2.0			99	4.9	4.9	
03	338	2.0			97		4.6	
04	339	2.0			97		3.8	
05	342	2.1			98		2.9	
06	325	2.1			99	1.1	2.4	
07	290	2.3			100	1.4	2.1	
08	264	3.0			100	1.6	2.4	
09	255	3.8	245	3.0	102	2.0	2.4	
10	264	4.3	233	3.1	98	2.2	2.5	
11	271	4.5	230	3.2	98	2.2	2.5	
12	263	4.7	236	3.2	104	2.3	2.6	
13	258	5.0	240	3.1	103	2.3	2.2	
14	246	5.0	242	3.2	103	2.1	2.2	
15	240	5.1			103	1.9	2.1	
16	237	4.8			101	1.6	2.0	
17	239	4.2			106	1.3	1.8	
18	244	3.2			102		2.5	
19	258	2.3			101		3.0	
20	272	1.8			100		3.2	
21	285	1.7			99	1.4	3.4	
22	292	1.7			98		4.0	
23	306	1.6			99		4.9	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 48*

Fairbanks, Alaska (64.9°N, 147.8°W) January 1943

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	302	1.6			96		4.6	
01	321	1.6			95		4.3	
02	318	1.6			94		4.5	
03	348	1.5			93		4.1	
04	353	1.6			93		4.0	
05	329	1.7			93		3.3	
06	314	1.8			95		3.0	
07	291	1.8			96	1.2	2.4	
08	265	2.0			94	1.3	2.3	
09	254	3.1			95	1.4	2.2	
10	243	3.9			95	1.7	2.4	
11	239	4.4			96	1.8	3.2	
12	238	4.8			97	1.9	2.7	
13	240	4.8			99	1.8	2.1	
14	232	4.6			99	1.6	3.3	
15	227	4.1			98	1.4	1.7	
16	238	3.5			94	1.0	2.0	
17	241	2.7			95	0.9	1.9	
18	252	1.9			94	0.9	2.0	
19	276	1.6			94	0.9	2.7	
20	292	1.4			96		3.3	
21	295	1.4			97		3.4	
22	294	1.4			96		4.0	
23	301	1.5			94		3.9	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 49*

Fairbanks, Alaska (64.9°N, 147.8°W) December 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	324	1.4			99		4.1	
01	309	1.6			98		4.1	
02	318	1.7			98		4.5	
03	327	1.6			98		4.7	
04	319	1.6			99		4.5	
05	314	1.7			98	1.0	4.2	
06	315	2.0			99	1.3	3.9	
07	298	2.1			98	1.2	3.0	
08	273	2.3			98	1.1	2.9	
09	259	3.2			101	1.4	2.5	
10	251	4.3			102	1.6	2.5	
11	238	4.9	230	2.6	101	1.8	2.6	
12	242	5.1	222	2.9	102	1.8	2.4	
13	239	5.4			102	1.7	2.6	
14	234	4.9	208	2.6	100	1.5	1.9	
15	244	4.0	240	3.0	102	1.3	2.2	
16	251	3.4			99	1.1	2.0	
17	252	2.5			98	1.0	2.4	
18	256	2.0			99	0.9	2.8	
19	263	1.7			99	0.8	2.8	
20	279	1.6			97		3.1	
21	297	1.6			100	1.9	3.4	
22	297	1.5			100		3.9	
23	296	1.4			99		3.8	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 50*

Fairbanks, Alaska (64.9°N, 147.8°W) November 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	307	2.4			94	1.3	5.3	
01	311	2.2			91		5.2	
02	325	2.1			91		4.5	
03	341	1.9			93		4.5	
04	334	2.2			92	1.0	4.5	
05	324	2.4			91	1.0	3.8	
06	306	2.4			93	1.2	3.2	
07	295	2.6			92	1.3	2.5	
08	269	3.2			92	1.7	2.6	
09	253	4.0			94	1.7	2.4	
10	258	4.6	242	3.0	93	2.0	2.5	
11	253	4.9	242	3.1	95	2.0	2.5	
12	251	5.1	237	3.4	89	2.0	2.6	
13	251	5.4	254	3.4	94	2.0	2.4	
14	238	5.4	234	3.5	93	1.9	2.9	
15	239	5.0	225	3.1	95	1.5	4.8	
16	240	4.4			89	1.2	2.4	
17	249	3.2			90	1.1	2.8	
18	264	2.4			91	1.2	2.4	
19	270	1.9			92	0.9	2.4	
20	288	1.8			92	0.9	2.5	
21	290	1.9			93	0.9	3.4	
22	282	1.9			94	1.0	4.4	
23	295	2.3			90	1.2	5.1	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 51*

Fairbanks, Alaska (64.9°N, 147.8°W) October 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	306	1.8			93	1.1	5.3	
01	339	2.0			92	1.1	5.2	
02	335	2.7			92	1.1	5.8	
03	332	2.9			92	1.5	4.9	
04	343	2.7			92	1.5	4.4	
05	319	2.4			93	1.5	4.1	
06	288	2.6			94	1.4	3.9	
07	255	3.2			100	1.7	2.6	
08	258	4.0	238	3.2	102	2.0	2.2	
09	269	4.4	226	3.2	103	2.3	3.2	
10	272	4.6	222	3.3	101	2.4	2.7	
11	282	5.0	223	3.3	99	2.5	2.6	
12	274	5.2	228	3.4	97	2.4	3.0	
13	264	5.2	229	3.3	99	2.3	2.6	
14	231	5.1	227	3.3	99	2.1	2.8	
15	240	4.9	250	3.1	99	1.9	2.5	
16	254	4.7			101	1.6	2.3	
17	251	4.3			100	1.3	3.2	
18	266	3.2			100	1.3	3.6	
19	277	2.5			96	1.2	3.4	
20	291	2.1			96	1.2	3.8	
21	288	2.0			94	1.1	4.6	
22	287	2.0			93	1.0	5.2	
23	315	2.0			95	1.0	5.8	

Time 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 52*

Fairbanks, Alaska (64.9°N, 147.8°W) September 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00		2.6			98		5.2	
01		2.4			97		5.2	
02		2.4			96		4.8	
03	415	2.5			96		4.4	
04	335	2.4			95	1.4	3.4	
05	306	2.6	330	2.8	102	1.5	3.6	
06	285	3.2	247	3.0	103	1.8	3.3	
07	269	3.7	232	3.1	103	2.2	4.2	
08	308	4.1	227	3.4	102	2.4	2.9	
09	346	4.3	221	3.5	105	2.5	3.0	
10	347	4.5	218	3.7	105	2.7	2.6	
11	367	4.6	213	3.8	103	2.7	2.6	
12	362	4.8	216	3.8	103	2.7		
13	346	4.8	223	3.8	103	2.7		
14	314	4.8	222	3.7	102	2.6		
15	291	4.7	233	3.6	104	2.4	3.2	
16	286	4.5	238	3.4	106	2.2	3.2	
17	269	4.1	242	3.3	107	1.8	3.8	
18	259	3.8			106	1.5	2.7	
19	269	3.2			104	1.4	2.4	
20	280	2.5			99	1.4	3.6	
21	291	2.2			97	1.1	3.8	
22	294	2.0			98		4.6	
23	327	2.0			98		5.4	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 53*

Fairbanks, Alaska (64.9°N, 147.8°W) August 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	308	2.8			102	0.9	4.9	
01	328	3.0	320	3.2	101	0.9	5.2	
02	324	3.1	310	3.2	101	1.2	4.6	
03	330	3.2	250	2.7	101	1.4	4.7	
04	350	3.4	276	3.1	99	1.7	4.7	
05	347	3.6	250	3.0	100	2.0	4.8	
06	380	3.9	225	3.3	102	2.3	5.6	
07	404	4.1	215	3.5	103	2.4	4.3	
08	424	4.4	206	3.7	104	2.6	3.6	
09	421	4.5	203	3.7	104	2.7	3.0	
10	449	4.5	202	3.8	105	2.8	3.0	
11	408	4.6	196	3.8	103	2.8	3.4	
12	425	4.5	200	3.8	104	2.9	4.0	
13	410	4.4	205	3.8	104	2.8	5.2	
14	413	4.5	205	3.8	103	2.7	3.0	
15	392	4.5	210	3.7	108	2.6	5.8	
16	365	4.4	220	3.6	112	2.5	4.0	
17	348	4.4	227	3.6	114	2.2	5.8	
18	316	4.3	233	3.4	113	2.0	5.7	
19	288	3.8	242	3.2	112	1.8	5.2	
20	287	3.4	250	3.2	112	1.4	5.9	
21	268	3.1			109	1.2	5.4	
22	279	2.9			102	1.0	4.4	
23	293	2.8			104	1.1	4.3	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 54*

Fairbanks, Alaska (64.9°N, 147.8°W) July 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	303	2.8			100	1.3	6.6	
01	309	3.0			98	1.4	6.5	
02	322	3.4	260	2.5	98	1.7	5.8	
03	342	3.7	257	2.9	99	2.0	5.0	
04	365	3.9	260	3.1	97	2.2	4.9	
05	380	4.1	230	3.2	95	2.3	5.1	
06	407	4.2	221	3.4	96	2.5	5.8	
07	420	4.3	208	3.6	98	2.7	6.1	
08	434	4.4	205	3.7	98	2.8	3.5	
09	453	4.5	207	3.9	99	2.9	3.5	
10	449	4.6	208	4.0	100	2.9	5.0	
11	463	4.5	210	4.0	100	3.0	3.3	
12	440	4.6	207	4.0	99	3.0	10.4	
13	427	4.6	206	4.0	100	3.0	2.8	
14	417	4.6	210	4.0	100	3.0	3.6	
15	426	4.6	214	3.9	101	2.9	5.7	
16	394	4.6	214	3.8	101	2.7	5.5	
17	380	4.4	221	3.6	104	2.5	7.9	
18	346	4.4	226	3.4	105	2.4	6.6	
19	309	4.2	232	3.2	102	2.2	6.0	
20	275	3.9	241	3.1	102	1.9	5.6	
21	274	3.3	245	2.5	100	1.7	4.8	
22	278	3.1			103	1.4	4.7	
23	290	2.9			99	1.4	6.3	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 55*

Fairbanks, Alaska (64.9°N, 147.8°W) June 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	283	3.8			102	1.5	4.6	
01	295	3.9	275	3.3	104	1.7	4.9	
02	294	4.0	228	3.5	102	1.8	4.5	
03	337	4.3	264	3.0	99	2.0	4.4	
04	358	4.4	245	3.2	97	2.2	5.2	
05	382	4.5	217	3.5	100	2.4	5.5	
06	374	4.7	214	3.7	99	2.6	5.4	
07	403	4.7	216	3.9	100	2.8	4.4	
08	424	4.7	205	4.0	102	2.9	3.7	
09	431	4.7	209	4.0	101	3.0	4.0	
10	431	4.8	210	4.1	102	3.1	4.5	
11	437	4.8	210	4.2	102	3.1	3.4	
12	445	4.8	210	4.2	100	3.1	4.0	
13	436	4.8	208	4.2	104	3.1	4.1	
14	423	4.7	246	4.1	102	3.0	3.2	
15	424	4.7	204	4.2	101	3.0	3.1	
16	407	4.6	214	4.0	103	2.8	3.4	
17	382	4.6	221	3.9	105	2.7	4.1	
18	337	4.7	228	3.5	106	2.5	5.1	
19	300	4.6	233	3.4	103	2.2	3.6	
20	272	4.4	244	3.0	108	2.0	4.2	
21	260	4.3	280	3.4	106	1.8	3.9	
22	266	3.9			109	1.6	4.2	
23	275	3.9			104	1.6	5.0	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 56*

Fairbanks, Alaska (64.9°N, 147.8°W) May 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	312	4.0			100	1.3	4.5	
01	320	4.0			103	1.2	4.3	
02	327	4.1			103	1.6	4.0	
03	326	4.4	278	2.8	102	1.9	4.0	
04	361	4.5	271	3.2	101	2.0	5.7	
05	388	4.7	250	3.4	102	2.1	4.5	
06	409	4.5	232	3.7	103	2.4	6.2	
07	406	4.9	214	3.8	104	2.6	5.2	
08	434	5.2	215	4.0	103	2.8	3.4	
09	425	5.2	211	4.1	102	2.9		
10	404	5.3	211	4.2	103	3.0	3.2	
11	400	5.3	214	4.3	105	3.0	3.2	
12	390	5.3	211	4.3	103	3.0	3.3	
13	397	5.3	210	4.3	103	3.0	2.8	
14	388	5.3	211	4.3	102	2.9	3.4	
15	371	5.3	213	4.2	104	2.8	3.1	
16	351	5.2	219	4.0	106	2.6	4.0	
17	322	5.3	227	3.9	107	2.4	6.2	
18	297	5.3	235	3.4	109	2.3	5.3	
19	286	5.1	239	3.2	111	1.9	5.7	
20	270	4.9	232	2.7	110	1.7	5.8	
21	275	4.6			110	1.4	3.9	
22	280	4.3			109	1.3	4.8	
23	301	3.8			106	1.2	4.2	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 57*

Fairbanks, Alaska (64.9°N, 147.8°W) April 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	325	3.3			103	1.2	5.2	
01	316	3.4			103	1.1	5.2	
02	321	3.5			102	1.0	4.9	
03	344	3.6			102	1.5	4.8	
04	330	3.7	296	2.9	108	1.6	4.6	
05	344	4.1	282	3.3	107	2.0	5.6	
06	386	4.4	249	3.5	107	2.3	4.1	
07	442	4.5	238	3.7	106	2.5	4.7	
08	453	4.8	231	3.9	107	2.6	3.9	
09	472	5.0	225	4.0	108	2.9	3.3	
10	475	5.1	220	4.1	110	3.0	3.4	
11	445	5.2	218	4.2	109	3.0	2.9	
12	435	5.2	225	4.2	111	3.1		
13	409	5.3	224	4.2	112	3.0		
14	350	5.2	229	4.1	109	2.9	3.6	
15	370	5.3	233	4.0	110	2.7	3.4	
16	336	5.2	239	3.7	112	2.5	4.6	
17	298	5.2	243	3.4	115	2.3	3.8	
18	282	5.2	254	3.2	115	2.1	4.0	
19	272	5.0			112	1.6	5.0	
20	279	4.6			109	1.4	5.2	
21	277	4.1			108	1.1	5.0	
22	284	3.6			105	1.2	4.7	
23	295	3.4			104	1.2	5.3	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 58*

Fairbanks, Alaska (64.9°N, 147.8°W) March 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	336	2.0			104		5.0	
01	350	2.2			103		4.7	
02	349	3.3			102		4.3	
03	365	3.0			99		4.0	
04	377	2.9			103		4.3	
05	374	3.0			107	1.6	3.9	
06	350	3.4	278	3.1	113	1.9	4.2	
07	331	4.0	268	3.3	111	2.2	3.3	
08	306	4.4	246	3.6	109	2.4	2.9	
09	346	4.6	230	3.9	112	2.6	3.2	
10	338	4.9	230	4.0	110	2.8		
11	340	5.2	228	4.0	112	2.8	3.1	
12	339	5.2	233	4.0	115	2.9	3.9	
13	329	5.6	238	4.0	111	2.7		
14	305	5.8	232	3.7	106	2.7		
15	282	5.8	235	3.6	109	2.6		
16	279	5.8	245	3.3	114	2.3	3.6	
17	261	5.8	250	2.9	118	2.0	4.0	
18	261	5.2			111	1.6	4.1	
19	266	4.3			126	1.2	4.1	
20	274	3.6			122	1.1	3.8	
21	288	3.1			117	1.3	3.8	
22	301	2.4			115	1.2	4.5	
23	320	2.5			110		5.3	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 59*

Fairbanks, Alaska (64.9°N, 147.8°W) February 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	294	2.2			114		3.8	
01	315	2.2			112		3.8	
02	338	2.3			112		4.0	
03	343	2.5			109	1.5	3.5	
04	348	2.5			111	1.5	3.2	
05	337	2.6			110	1.4	2.8	
06	338	2.5			111	1.2	2.6	
07	295	2.8			114	1.3	2.7	
08	266	3.8			109	1.6	3.2	
09	260	4.7	238	3.0	107	1.9	2.7	
10	260	5.2	233	3.1	108	2.1	3.0	
11	266	5.7	236	3.1	105	2.2		
12	257	6.0	239	3.3	108	2.3		
13	253	6.2	252	3.1	117	2.2		
14	235	6.2	250	3.0	109	2.1		
15	232	6.1			116	1.9		
16	235	5.8			120	1.4		
17	235	5.3			119	1.4	1.9	
18	253	3.9			118	1.1	1.8	
19	274	2.7			118	1.0	2.4	
20	291	2.4			117	0.9	3.3	
21	281	2.1			120	0.7	3.6	
22	287	2.0			116	1.0	3.9	
23	285	2.0			117	1.2	4.2	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

Table 60*

Fairbanks, Alaska (64.9°N, 147.8°W) January 1942

Time	h'F2	f°F2	h'F1	f°F1	h'E	f°E	fEs	F2-M3000
00	312	1.9			102		4.6	
01	321	2.0			102		4.3	
02	339	2.1			101		4.3	
03	349	2.2			102		4.7	
04	340	2.4			102		3.9	
05	323	2.3			100	0.9	3.1	
06	322	2.3			100	0.9	2.7	
07	311	2.3			100	1.0	2.3	
08	284	2.7			104	1.2	2.1	
09	252	4.0			108	1.5	2.5	
10	242	5.0			104	1.7	2.3	
11	238	5.7	230	2.6	103	1.9	2.3	
12	233	6.4		2.6	102	1.9		
13	230	6.6	225	2.8	102	1.8		
14	224	6.1	205	2.7	103	1.7		
15	225	5.7			107	1.4	1.4	
16	230	4.7			103	1.3	1.8	
17	238	3.6			102	1.3	1.7	
18	255	2.5			104		2.1	
19	292	2.0			111	1.0	2.1	
20	307	1.9			109		2.2	
21	300	1.9			106		2.5	
22	306	1.9			105		3.2	
23	304	1.8			102		4.0	

Time: 150.0°W.
Sweep: 16.0 Mc to 0.5 Mc in fifteen minutes.
*Average values.

TABLE 61

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

h'F2 (Characteristic), km (Unit), September (Month), 1946

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: A. K. B., J. L. S.

Calculated by: A.M.K., B.W.D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	290K	280K	260K	270K	270K	300K	250	260	260	300	290	[360]F	360	340	320	300	290	280	250	240	240	240	[270]A	300
2	270	270	300	290	260	270	240	240	270	280	270	280H	330	320	330	320	290	260	250	250	240	250	(260)	260
3	280	280	270	250	260	270	250	270	300	310	250	320	330	340	330	290	(280)	280	250	240	230	260	250	260
4	270	280	320	310	310	270	240	(250)	(270)	310	270	320	360	330	300	320	290	270	250	230	230	220	260	270
5	270	250	260	260	280	260	240K	250K	310K	260K	370K	370K	370K	380K	400K	340K	320K	280K	[260]E	260	250	260	270	280
6	300	290	280	250	260	[260]A	240	250	(290)	270	(280)	290	300	310	300	290	260	260	240	220	220	240	260	270
7	270	280	290	280	280	300	240	220	350	330	320	360	290	320	310	320	310	290	260	240	250	260	260	260
8	270	260	250	280	270	260	260	270	260	280	280	280	300	300	290	290	280	250	240	220	230	230	240	260
9	270	260	250	250	270	230	230	270	270	270	290	300	310	320	300	280	260	260	240	230	230	260	(290)	250
10	270	250	270	(300)	310	310	290	320	330	(310)	310	350	300	320	290	280	270	260	240	220	250	[250]A	260	270
11	250	250	270	[270]A	280	280	250	350	310	330	320	290	320	300	300	300	280	260	240	240	230	250	260	280
12	260	270	260	280	300	280	260	260	280	270	310	320	280	290	280	270	260	250	250	240	240	240	250	270
13	280	300	280	250	250	250	240	240	280	280	270	280	270	300	280	290	270	240	240	230	240	240	260	250
14	270	250	250	250	270	300	260	270	270	260	270	290	310	290	300	300	260	250	230	230	230	250	250	270
15	270	250	250	260	250	260	250	230	270	300	300	280	260	280	290	280	270	250	230	220	240	260	270	270
16	270	270	260	260	260	250	240	230	250K	270K	270K	[290]E	310K	350K	310K	(330)K	270K	240K	230K	250K	230K	320K	310K	300K
17	260	270	270	250	280	270	240	250	270	260	250	260	300	290	270	280	270	250	230	240	240K	360K	[490]A	430K
18	340K	400K	410K	370K	430K	380K	330K	660K	G K	G K	G K	G K	G K	G K	G K	600K	380K	250K	260K	280K	280K	380K	420K	450K
19	(430)K	400K	400K	410K	380K	400K	280K	350K	470K	G K	G K	780K	480K	460K	360K	320K	310K	280K	250K	230K	230K	250K	260K	280K
20	320K	300K	300K	300K	300K	280K	260K	250K	280K	310	280	310	290	(290)	280	290	270	240	240	220	230	260	270	280
21	280	270	260	260	250	280	250	250	260	270	260	280	310	310	300	280	270	260	230	240	240	250	270K	270K
22	250K	(400)K	480K	(410)K	330K	290K	B K	G K	G K	B K	G K	G K	G K	G K	G K	G K	G K	G K	260K	320K	320K	B K	B K	B K
23	(350)K	B K	B K	B K	B K	B K	330K	280K	G K	G K	B K	B K	B K	C K	G K	540K	470K	400K	320K	(480)K	(480)K	C K	C K	C K
24	C K	(460)K	F K	F K	F K	[450]E	280K	250K	270	250	240	280	280	270	260	260	250	230	230	210	220	250	250	250
25	260	250	250	250	270	260	240	230	240	240	270	260	270	280	C	C	240	240	220	220	240	250	270	260
26	250	240	240	250	270	280	270	240	240	260	270	270	280	280	280	270	270	240	230	220	240	250	[260]E	270
27	270	270	250	280	310	320	[300]C	270	260	300	C	C	C	C	C	C	290	260	240	240	270K	250K	260K	280K
28	300K	320K	320K	300K	330K	300K	310K	250K	300K	(340)K	C K	C K	C K	C K	330K	320K	310K	270K	270K	350K	370K	[360]E	[340]E	370K
29	A K	C K	C K	C K	C K	[300]E	280K	240K	[270]C	290K	360K	340K	370K	(380)K	360K	380K	330K	280K	270K	250K	270K	280K	300K	310K
30	310K	310K	320K	320K	340K	340K	280	240	260	(280)	270	280	280	(280)	260	C	C	C	C	C	230	280	270	280
31																								
Median	270	270	270	270	280	280	250	250	270	280	280	290	310	310	300	300	280	260	240	240	240	250	260	270
Count	28	28	27	27	27	29	29	30	30	29	27	27	27	27	28	27	29	29	29	29	30	28	28	28

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 703518

TABLE 62

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D C

Form adopted June 1946

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), September (Month), 1946

Observed at Washington, D. C.

Lat 39.0° N., Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	4.3 K	4.1 K	3.9 K	3.5 F K	3.4 K	3.1 K	(5.3) J	6.9	8.0	8.4	8.1	7.5	8.1	8.5	8.9	8.8	8.5	(8.2)	8.2	(8.2)	7.9	7.0	6.0	(6.2
2	6.2	5.8	5.0	5.0	5.0	4.7	6.0	7.1	8.4	9.1	8.5	8.6 H	9.3	9.1	9.0	9.4	9.3	(9.0)	8.6	(8.+	(7.8) J	7.1	(6.8) J	6.1
3	5.8	5.5	5.1 F	4.9 F	4.5 F	4.3 F	5.0	6.6	7.7	(7.6)	(7.7) J	7.5	8.0	8.5	8.2	(8.1)	7.9	7.9	7.7	(7.2)	7.0	6.7	(6.2)	5.2
4	5.2	5.0	4.6 F	4.7 F	4.6 F	4.6 F	(5.2)	(5.8) J	(7.4) J	(8.2)	8.4	8.5	8.9	9.2	9.5	(8.9)	9.0	9.4	(9.1)	(8.7)	[7.5] C	(6.0) J	(5.2)	5.1
5	5.1	4.8	4.8	4.2	3.8 F	3.8 F	(5.7) J K	(6.6) K	(6.6) K	(6.3) J K	6.6 K	(7.0) K	7.0 K	7.3 K	7.3 K	7.6 K	7.8 K	(7.4) K	7.0 K	(7.1	5.9	5.4	4.8	4.7 F
6	4.5 F	4.6 F	4.6 F	4.2 F	3.9 F	(2.8) F	4.8 F	6.8	8.0	8.8	9.1	9.2	9.1	9.1	9.0	8.7	8.6	8.6	(8.7)	8.0	6.6	(5.8)	5.2	5.1 F
7	[5.1] C	4.6 F	4.2 F	4.2 F	(3.6) F	3.2 F	4.3	5.0	6.2	6.1	6.8	6.8	7.2	7.0	7.0	7.2	7.1	7.0	7.2	7.2	6.7	5.9	5.3	5.0
8	4.8	4.4 F	3.7 F	3.2 F	3.5 F	3.5 F	5.0	6.3	7.2	7.1	8.6	9.0	9.9	9.7	9.4	9.2	9.3	8.8	8.7	(8.6)	(7.2)	6.4	5.6	5.0
9	4.5 F	4.6	4.4	4.1	3.9	3.4	(4.7) F	6.9	8.0	8.1	8.2	8.9	9.3	10.0	10.4	10.4	(9.7)	8.8	(8.3)	(7.6	6.7	(5.8) J	(5.4)	5.0
10	4.4	(3.6) J	3.4	2.9	2.0 F	1.9 F	3.8	5.0	5.5	(5.9)	6.3	7.0	7.8	8.1	8.8	8.5	(8.4)	8.1	(7.6)	[7.1] C	(6.4) J	(5.7)	5.4	5.1
11	4.9	4.2	3.9 F	3.8	3.5 F	3.3	4.3	5.1	(5.8) J	6.1	6.9	(7.4)	(7.7)	8.5	9.1	8.5	(8.3)	7.9	(7.7)	6.8	5.9	5.3	5.0	4.4
12	4.1 F	4.2	3.5 F	3.4 F	3.6	(3.6)	4.5	(5.9) J	6.6	6.8	(7.5)	(8.4)	8.7	9.7	9.0	8.8	8.5	7.8	(7.8)	(7.6) J	(7.3)	(5.6) J	(5.0)	(4.9
13	(4.2)	(4.4)	(4.3)	4.2	3.9	3.5	5.0	6.4	7.7	8.3	(8.6)	8.6	8.6	[10.2] C	9.5	8.7	8.4	8.2	[8.0] C	(7.8) J	(7.2)	6.6	(6.0)	(5.6
14	5.0	4.3 F	(3.8) F	3.6 F	(3.1) F	3.2 F	4.6	6.0	7.2	8.5	8.0	8.0	8.2	8.3	8.6	8.6	8.6	8.3	8.0	(7.3)	(6.2) J	6.0	5.8	[5.3] C
15	5.1	[4.8] C	(4.3) J	4.3	4.0	3.9	5.0	(5.8) J H	6.6	7.0	8.0	8.6	8.5	8.6	9.2	9.0	8.6	8.4	8.2	7.0	6.5	6.2	5.9	6.0
16	5.5	5.4	5.0	5.0	4.7	4.6	C	C	C K	C K	C K	(8.5) K	9.4 K	9.4 K	(10.2) J K	(10.5) J K	(11.6) D K	(11.6) D K	(11.5) J K	(9.3) K	(7.3) K	6.6 K	6.7 K	7.0 K
17	(6.7)	6.0	(5.5) J	5.0	4.6	(4.1) J	(5.4)	7.6	9.5	(10.7) J	(10.7) J	10.5 H	[11.7] D	11.2	10.4	(10.1)	(10.1)	(9.9	[9.3] C	[8.5] C	(6.8) K	5.0 K	(3.2) K	3.7 K
18	(4.2) K	3.6 F K	4.1 F K	3.4 F K	2.8 F K	3.5 K	3.6 F K	3.8 F K	<4.0 G K	<4.1 G K	(4.1) G K	<4.3 G K	<4.4 G K	<4.5 G K	<4.3 G K	5.0 K	4.4 K	5.1 K	4.7 K	4.5 K	(3.8) J K	2.2 F K	2.3 F K	[2.1] F K
19	2.2 F K	1.4 F K	1.3 F K	[1.2] F K	1.4 F K	1.6 F K	3.4 K	4.8 K	5.2 K	<4.6 G K	<4.5 G K	5.0 K	5.4 K	6.4 K	6.6 K	7.0 K	7.2 K	7.6 K	(7.4) K	7.0 K	6.0 K	5.2	4.4 K	3.7 K
20	3.3 F K	3.2 F K	3.3 F K	3.2 F K	(2.7) F K	2.5 F K	4.2 K	5.3 K	6.1 K	(7.6)	(7.2) J	8.0	8.6	9.0	(8.8)	9.0	9.2	8.6	8.7	7.0	(6.2)	5.8	5.5	5.2
21	5.2	4.8	4.0 F	3.8 F	3.5 F	2.9 F	5.0	(7.2)	8.0	9.0	8.9	(9.2)	10.0	10.0	9.4	9.8	(10.0)	C	C	C	[7.6] C	7.0	6.2 K	6.7 K
22	5.0 F K	2.8 F K	3.2 F K	3.2 F K	3.8 F K	3.7 F K	2.4 K	<3.5 G K	<3.6 G K	B K	<4.3 G K	<4.1 G K	<4.1 G K	<4.3 G K	<4.2 G K	<4.0 G K	<3.9 G K	<(3.8) G K	5.1 K	4.1 K	3.7 F K	C K	F K	B K
23	2.3 K	(1.6) K	B K	B K	[1.6] B F	1.8 K	2.8 K	[3.8] C K	<4.2 G K	<4.2 G K	B K	B K	B K	C K	<4.6 G K	5.0 K	5.0 K	5.2 K	4.7 K	(2.1) F K	F K	C K	C K	C K
24	C K	(1.9) F K	F K	F K	F K	(1.7) F K	3.2 F K	(5.2) K	(7.1)	9.4	(9.8) J	9.8	(10.1) J	(10.1)	10.0	10.0	9.9	9.6	[9.5] C	(7.8) J	6.8	6.6	6.3	(5.8) J
25	(5.6)	5.3	3.0	4.4 F	4.1 F	4.0 F	5.5	7.7	(8.7) J	(9.2)	10.0	10.2	10.6	(11.2)	C	C	(10.4)	(10.6) J	[9.5] C	7.8	(7.4) J	(7.2	7.0	6.8
26	6.6	6.0	5.5	4.9	4.7 F	4.2	5.2	(7.4)	8.4	(9.8) J	10.0	10.4	(10.6)	11.0	11.0	11.0	(11.0)	(10.3) J	(9.2)	(8.5)	(7.8)	(7.6	[6.8] C	6.2
27	[6.5] C	6.4	5.7	4.9	3.5 F	3.2 F	[4.0] C	6.3	(7.4)	6.8	C	C	C	C	C	C	11.2	11.2	(9.4	[8.4] C	(7.2) K	6.8 K	6.2 K	5.2 K
28	(3.3) F K	4.0 K	(2.7) K	1.9 F K	2.3 F K	2.2 F K	4.5 F K	6.6 K	8.2 K	6.8 K	(6.6) K	C K	C K	C K	9.4 K	(10.1) J K	(10.2) J K	8.9 K	(6.1 K	(3.7) K	(2.2 F K	(1.8 K	1.8 F K	(2.8 K
29	A K	C K	C K	C K	C K	[1.6] C K	4.3 K	7.6 K	[8.1] C K	8.0 K	7.9 K	8.0 K	7.8 K	7.2 K	(7.4) K	6.8 K	6.7 K	6.5 K	6.0 K	5.9 K	5.3 K	4.6 K	4.3 K	4.4 K
30	3.8 F K	(3.4) K	2.9 F K	2.0 F K	(2.4) F K	2.4 F K	4.4	6.8	8.2	(9.2) J	10.0	(11.2)	11.0	11.0	(10.8) J	C	C	C	C	C	(6.3) J	C	C	C
31																								
Median	5.0	4.4	4.2	4.1	3.6	3.4	4.6	6.3	7.4	7.8	8.0	8.5	8.6	9.0	9.0	8.8	8.6	8.4	(8.2)	(7.4)	(6.7)	6.0	5.5	5.1
Count	25	29	27	27	28	30	29	29	29	28	27	27	27	27	28	27	29	28	28	28	29	27	27	27

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

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U. S. GOVERNMENT PRINTING OFFICE 1946 O - 102

TABLE 63

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

f°F2 (Characteristic), Mc (Unit), September (Month), 1946

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

National Bureau Of Standards (Institution)

Scaled by: A. K. B., J. L. S.

75° W Mean Time

Calculated by: A. M. K., B. W. D.

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	4.3	(4.0)	(3.6)	3.5	3.1	3.8	[6.3]	[7.5]	[8.3]	[8.2]	7.6	7.9	8.4	8.7	9.0	8.8	8.2	(8.2)	(8.0)	(8.0)	(7.4)	6.6	6.0	(6.0)
2	6.0	5.5	4.9	5.0	4.8	5.0	7.0	8.3	8.8	8.8	8.7	8.8	9.3	9.0	9.1	9.5	9.2	9.0	8.4	8.1	7.5	6.7	(6.2)	(5.9)
3	5.7	(5.7)	5.0	5.0	4.2	(4.6)	6.0	6.7	(7.1)	7.5	(7.6)	7.6	8.2	8.2	8.4	8.2	(7.8)	7.4	(7.3)	(7.3)	6.5	(6.4)	5.8	(5.3)
4	5.0	5.0	4.7	4.6	4.9	(5.1)	(6.3)	6.8	7.3	8.9	8.4	8.6	(9.2)	(9.6)	9.2	9.1	(9.1)	(9.3)	(8.4)	[8.1]	(6.9)	(6.0)	(5.0)	5.0
5	5.0	4.7	4.6	4.0	3.7	4.4	6.6	6.5	(6.1)	6.9	6.7	[7.0]	7.1	7.2	(7.6)	7.3	7.6	7.0	7.2	6.8	5.5	4.8	4.6	4.7
6	4.5	4.3	4.5	4.3	3.2	3.3	5.8	8.0	8.6	9.0	9.0	9.1	8.9	9.0	9.5	(8.7)	8.3	8.6	8.5	7.2	6.0	5.6	5.1	(5.2)
7	4.9	(4.4)	4.2	4.0	(3.2)	3.5	4.9	5.7	6.8	6.6	6.5	7.8	7.1	7.2	7.0	7.2	7.0	7.0	7.2	7.0	(6.2)	5.5	(5.0)	4.9
8	4.8	4.3	3.5	3.5	3.6	3.8	5.3	7.2	7.4	7.9	8.9	9.5	9.5	9.6	9.1	9.2	9.2	8.9	8.8	(7.5)	6.9	6.0	5.3	4.7
9	4.6	4.6	4.2	3.9	3.9	3.7	5.7	7.7	8.1	(8.1)	8.6	9.1	(9.6)	10.2	10.4	(10.2)	8.9	(8.6)	7.6	(7.4)	(6.1)	5.6	(5.1)	4.6
10	(4.0)	3.5	3.2	(2.4)	(1.6)	2.8	4.5	5.3	6.2	6.3	6.5	7.4	8.0	8.4	8.6	8.6	8.3	8.0	(7.4)	6.8	6.1	5.6	5.2	5.1
11	4.5	4.1	3.7	3.5	3.5	3.5	4.7	(5.6)	6.1	6.8	7.1	[7.6]	8.0	(8.0)	8.3	(8.3)	8.4	(7.6)	6.8	6.7	5.6	5.3	4.6	4.2
12	(4.0)	3.8	3.3	3.5	3.7	3.8	5.5	(5.6)	[6.7]	6.4	[7.9]	8.8	8.6	(9.0)	8.7	8.6	7.4	(8.1)	7.9	(7.2)	(6.2)	(5.2)	(4.7)	5.0
13	(4.7)	4.0	4.4	4.1	3.7	3.8	5.9	7.0	[8.0]	(8.3)	[8.6]	[8.6]	9.0	[9.0]	8.6	8.5	8.3	8.0	(8.1)	(7.3)	7.1	(6.2)	(5.9)	5.0
14	4.8	4.2	3.9	3.5	3.4	[3.5]	5.7	7.0	(8.0)	8.2	8.0	8.0	8.2	8.5	8.5	8.9	8.3	(8.4)	(7.2)	6.7	(6.1)	(5.6)	5.4	5.3
15	5.0	4.6	4.2	4.2	4.0	4.1	5.4	6.3	6.8	(7.2)	8.2	8.6	8.7	8.4	7.2	8.8	8.6	8.4	7.6	6.7	(6.2)	6.0	5.9	(5.7)
16	5.4	5.3	4.9	4.7	4.6	5.1	C	C	C	C	(7.8)	7.0	9.2	10.4	(10.2)	11.3	[11.8]	(11.3)	7.2	(7.0)	6.7	6.7	6.8	6.7
17	6.3	(5.6)	5.4	4.7	4.2	4.4	6.8	8.5	(9.2)	(10.7)	(10.7)	10.7	10.9	10.7	10.2	(10.2)	(10.2)	(7.5)	(4.0)	[7.7]	(6.1)	2.8	3.3	3.7
18	3.5	4.3	3.7	(2.7)	(2.9)	3.4	3.6	<3.9	<4.0	<4.3	<4.3	<4.4	<4.4	C	C	4.9	5.0	5.2	4.6	4.3	2.4	2.2	[2.2]	2.0
19	2.2	1.3	1.1	[1.4]	1.3	2.3	4.1	<4.7	<4.3	<4.5	5.1	5.3	6.4	(6.4)	7.0	7.0	7.8	7.6	7.2	6.2	5.7	4.7	4.1	3.2
20	3.2	3.3	3.2	2.8	2.3	2.9	4.9	(5.3)	6.2	7.0	(7.2)	8.6	8.6	(8.4)	[8.9]	9.0	9.2	8.6	(8.1)	(6.3)	6.0	5.7	5.3	5.0
21	5.0	4.6	3.9	3.6	3.2	3.6	6.5	7.8	8.6	(9.4)	9.0	9.6	10.0	9.6	(9.8)	(10.4)	(10.2)	C	C	(8.4)	7.2	6.8	(6.4)	6.4
22	3.4	3.1	2.5	(3.7)	3.7	(3.2)	5.3	<3.8	<3.7	<3.8	<4.2	<4.2	C	<4.2	<4.1	<3.9	<3.8	5.2	4.6	4.6	(2.7)	1.3	1.8	1.9
23	[1.7]	1.8	1.8	1.8	[1.6]	2.2	3.5	<4.0	<4.1	C	1.8	1.8	C	<4.5	4.8	5.2	5.0	5.0	3.5	(2.0)	C	C	C	C
24	C	F	F	A	F	(2.2)	4.3	(6.0)	7.9	10.0	(9.4)	9.8	10.3	10.1	10.0	10.0	9.6	(9.6)	(8.6)	(7.4)	6.8	6.4	(6.2)	(5.7)
25	5.1	5.1	4.7	4.3	4.0	4.2	6.7	8.1	9.0	9.4	10.2	10.4	11.0	C	C	C	10.4	10.4	8.6	(7.2)	[7.3]	7.0	6.8	6.6
26	6.4	5.7	5.0	4.6	4.8	4.3	6.6	8.2	9.4	10.0	10.4	10.6	10.7	11.0	11.0	11.0	(10.5)	(10.4)	[8.8]	8.3	(7.8)	[7.2]	(6.3)	6.6
27	6.4	6.2	5.2	(4.5)	(3.5)	3.5	5.4	7.0	7.4	C	C	C	C	C	C	C	[11.2]	(10.2)	[9.0]	(7.7)	7.2	6.7	6.0	(5.1)
28	3.5	1.9	(3.0)	2.2	2.4	3.2	(5.8)	7.6	7.3	(6.4)	C	C	C	7.2	10.0	10.2	9.2	7.6	(4.7)	2.5	1.8	2.2	1.9	A
29	A	C	C	C	1.8	3.2	6.4	8.0	(8.2)	[7.9]	7.7	7.8	7.6	7.1	7.0	6.8	6.6	6.4	6.0	5.5	5.0	4.5	4.3	4.3
30	3.6	3.4	3.1	2.7	2.3	2.8	6.3	7.8	9.1	9.3	[10.6]	11.1	(10.9)	11.0	(10.4)	C	C	C	C	C	C	C	C	4.6
31																								
Median	4.8	4.3	4.2	3.9	3.5	3.5	5.8	7.0	7.4	8.0	8.2	8.6	8.8	9.0	9.0	8.8	8.5	8.3	7.8	(7.2)	6.2	5.7	5.3	5.0
Count	28	27	27	27	24	30	28	29	29	26	27	27	26	27	27	27	29	28	28	29	28	27	27	28

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

TABLE 64

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D C

Form adopted June 1946

IONOSPHERIC DATA

h'F1 (Characteristic), km (Unit), September (Month), 1946

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								230	230	210	200H	180	220	220	230	220	220	230						
2									230	230	220H	200	200	[210]A	240	230	230	230						
3								220	220H	180H	210H	190	210	230	220	220	230	230						
4								230	210	220	210	230	220	210	210	240	220	230						
5								230K	220K	210K	210K	220K	[220]A	230K	AK	AK	AK	AK						
6								230	(220)	220	200H	200	200H	210	220	220	230	230						
7									220	210	210	210	[210]A	230	220	220	230	230						
8								230	230	220	200	210H	220H	200	210	210	(230)	A						
9								220	220	200H	200	200H	220H	230	220	220	220	220						
10								230	230	220	210	230	230	220	210	220	220	230						
11								230	230	220	220	220	220H	210	210	220H	230	230						
12								240	220	220	(210)	210H	210	210H	[210]C	220	230	230						
13									230	230	220	210	200H	210	[220]B	220	240							
14								230	230	[220]A	210H	[210]C	210	[220]C	210	220	240	220						
15									230	220	220	220	200H	210	220H	230	220							
16									220K	220K	220K	[210]B	200H	[210]A	220H	240K	230K	230K						
17								240	230	230	220	200	220	230	220	(220)	230	240						
18								300K	270K	250K	220K	220H	340K	220K	240K	250K	260K	250K						
19								260K	230K	230K	230K	210K	260K	[250]A	[250]A	[240]A	250K	260						
20									210K	210H	210	[210]C	[210]C	210	[210]C	230	230							
21									240	230	240	200	[220]C	[230]C	220	230	240	250						
22								BK	(220)K	[230]B	260K	(240)K	240K	250K	260K	260K	240K	260K						
23									250K	230K	BK	BK	BK	CK	240K	230K	250K	250K						
24								230K	210	190	190	210	200	[210]C	210	220	230							
25									220	220	200	220	[210]C	220	[220]C	[220]C	230							
26									C	210H	230	210	230	230	240	240	240							
27								250	240	210	C	C	C	C	C	C	230							
28									250K	240K	CK	CK	CK	CK	260K	[250]A	260K	250K						
29									[230]B	210K	220K	220K	220K	230K	[230]A	[230]A	(250)K	240K						
30									230	230	220	[220]C	(220)	[220]C	[220]C	C	C	C						
31																								
Median								232	230	220	210	210	220	220	220	220	230	232						
Count								16	29	30	27	27	27	27	28	27	28	20						

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

TABLE 65

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

f°F1 (Characteristic), Mc (Unit), September (Month), 1946

National Bureau Of Standards (Institution)

Observed at Washington, D. C.

Lat 39.0°N, Long 77.5°W 75°W Mean Time

Scaled by: A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								L	L	5.2	5.0^{N}	[5.5]^{C}	(5.4)	5.4	5.2	4.8	(4.8)	L						
2									L	5.0	5.1^{N}	5.0	5.4	5.3	5.4	5.0	L	L						
3								L	(4.8)^{N}	5.0^{N}	4.6^{N}	4.8	(5.3)	5.3	(5.4)	(4.7)	L	L						
4								L	L	C	4.7	5.1	5.6	5.3	(5.0)	L	L	L						
5								L^{K}	(4.6)^{K}	4.6^{K}	4.9^{K}	(5.0)^{K}	5.2^{K}	5.0^{K}	[5.0]$^{A}_{K}$	(5.0)^{K}	4.7^{K}	L^{K}						
6								L	L	(4.8)	4.8^{H}	(5.1)	5.4^{H}	5.3	(5.0)	(4.7)	L	L						
7									(4.7)	[4.6]^{L}	4.9	5.0	5.0^{H}	4.9	4.8	4.8	L	L						
8								L	[4.5]^{L}	[4.8]^{L}	(4.8)	5.0^{H}	(5.4)^{H}	(5.1)	5.0	(4.8)	L	L						
9								L	L	LH	L	LH	(5.4)^{H}	5.1	(5.2)	4.6	4.3	3.6						
10								3.9	4.3	[4.5]^{L}	4.8	(5.3)	5.C	5.0	4.8	4.8	L	L						
11								4.0	[4.4]^{L}	4.8	4.8	4.9	5.1	5.0	5.0	4.8	[4.4]^{L}	L						
12								L	4.3	[4.9]^{L}	(5.0)	(5.0)^{H}	5.C	5.2^{H}	5.0	4.7	L	L						
13									L	5.0	4.7	5.0	(5.0)^{H}	4.8	[4.8]^{B}	(4.8)	L							
14								L	L	4.7	4.9^{H}	[5.1]^{C}	5.2	5.1	(5.0)	4.9	L	L						
15									[4.5]^{L}	4.9	5.0	5.2	(5.2)^{H}	4.9	5.0^{H}	(4.8)	(4.4)							
16									L^{K}	L^{K}	(5.C^{K}	[4.8]$^{C}_{K}$	[5.4]$^{A}_{K}$	5.4^{K}	5.1$^{A}_{K}$	(5.3)^{K}	L^{K}	L^{K}						
17								L	L	L	5.0	4.8	[5.4]^{C}	[5.1]^{C}	5.0	[4.9]^{L}	L	L						
18								3.5^{K}	4.0^{K}	4.1^{K}	(4.1)^{K}	4.3$^{H}_{K}$	4.4$^{A}_{K}$	4.5^{K}	4.3^{K}	4.3^{K}	3.9^{K}	L^{K}						
19								3.8^{K}	4.6^{K}	4.6$^{H}_{K}$	4.5^{K}	4.6^{K}	4.8^{K}	4.8^{K}	5.0^{K}	5.0^{K}	(4.3)^{K}	L^{K}						
20									L^{K}	5.1^{H}	5.0	[5.1]^{C}	5.C	4.8	4.9^{H}	(5.0)	L							
21									L	L	5.0	[5.3]^{L}	(5.5)	(5.4)	[4.7]^{L}	L	L	L						
22								3.5^{K}	3.6^{K}	[4.0]$^{B}_{K}$	4.3^{K}	4.1^{K}	4.1^{K}	4.3^{K}	4.2^{K}	4.0^{K}	3.9^{K}	(3.8)^{K}						
23									4.2^{K}	4.2^{K}	B^{K}	B^{K}	B^{K}	C^{K}	4.6^{K}	4.4^{K}	4.3^{K}	4.0^{K}						
24								L^{K}	L	44	4.3	L	L	L	L	L	L							
25									L	°L	L	[4.9]^{L}	(5.2)	5.2	C	C	L							
26									L	LH	L	L	L	L	L	L	L							
27								L	(4.7)	(5.0)	C	C	C	C	C	C	L							
28									L^{K}	4.9^{K}	C^{K}	C^{K}	C^{K}	C^{K}	4.7^{K}	4.5^{K}	[4.3]$^{L}_{K}$	2.0^{K}						
29									C^{K}	4.7^{K}	5.0^{K}	4.8^{K}	5.0^{K}	5.0$^{H}_{K}$	5.0$^{H}_{K}$	4.9$^{H}_{K}$	L^{K}	L^{K}						
30									L	L	5.0	(5.0)	5.0	C	(5.0)	C	C	C						
31																								
Median								3.8	(4.5)	4.8	4.9	5.0	5.2	5.1	5.0	4.8	4.3							
Count								5	13	22	28	24	25	24	26	23	10	4						

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702

TABLE 66

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D C

Form adopted June 1946

IONOSPHERIC DATA

h'E (Characteristic), km (Unit), September (Month), 1946

Observed at Washington, D. C.

Lat. 39.0° N, Long. 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							120H	110	110	110	110	110	110	100	110	110	110	110	110					
2							110H	120	110	110	110	110	110	110	110	110	110	100	110					
3							120	110	110	110	110	110	110	100	100	100	100	100	100					
4							120	110	110	110	110	110	110	110	110	110	110	110	120					
5							110K	110K	110K	110K	110K	110K	100K	110K	110K	100K	110K	110K	110K					
6							110	110	110	110	100	110	100	100	110	110	110	110	C					
7							C	110	110	110	100	110	100	110	110	110	110	110	120					
8							120	110	110	100	100	110	110	110	110	110	110	100	100					
9							C	120	110	100	100	100	110	110	110	110	110	110	130H					
10							110	110	110	110	110	110	110	110	110	110	110	110	100					
11							[120]C	110	110	110	100	100	110	110	100	110	110	120	120H					
12							(120)	110	110	110	110	100	110	110	110	110	110	110	120H					
13							120	110	110	110	110	110	110	100	[110]B	110	110	110	120H					
14							C	110	110	110	110	110	110	110	110	110	110	120	120					
15							120	110	110	110	110	110	110	110	110	110	110	120	(130)					
16							C	120	110K	110K	110K	100K	110K	100K	110K	110K	110K	110K	C K					
17							110	110	110	110	100	110	110	110	100	100	110	120	120					
18							110K	120K	110K	110K	110K	100K	110K	100K	110K	110K	110K	110K	110K					
19							110K	110K	110K	110K	110K	110K	110K	110K	110K	110K	110K	120K	120K					
20							C K	110K	110K	110	110	100	110	110	110	110	110	120H	C					
21							C	110	110	110	100	100	100	100	110	110	110	110	C H					
22							B K	(110)A	110K	[110]B	110K	100K	100K	110K	110K	110K	110K	[120]B	C K					
23							C K	(130)K	110K	100K	B K	B K	B K	C K	110K	110K	110K	120H	C K					
24							110K	120K	110	110	100	110	100	110	110	110	110	120						
25							C	120	110	110	110	90	100	110	[110]C	[110]C	110	120	C					
26							110	120	110	110	110	110	110	110	110	110	120	110	C					
27							C	110	110	110	C	C	C	C	C	C	120	B	B					
28							C K	120K	110K	110K	110K	C K	C K	C K	110K	[110]C	110K	B K	C K					
29							110K	110K	[110]C	100K	110K	110K	100K	110K	110K	110K	120K	120K	C K					
30							C H	110H	110	110	110	[110]C	110	110	110	C	C	C	C					
31																								
Median							110	110	110	110	110	110	110	110	110	110	110	110	120					
Count							18	30	30	30	28	27	27	27	27	28	29	27	17					

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1948 O - 702519

TABLE 67

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

f°E (Characteristic), Mc (Unit), September (Month), 1946

Observed at Washington, D. C.

Lat 39.0°N, Lang 77.5°W — 75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							1.8 H	[2.4] C	(2.9)	[3.2] A	3.5	[3.7] C	[3.9] A	[3.7] A	(3.6)	(3.3)	A	A	A					
2							(1.6) H	2.6	3.1	3.5	3.6	A	A	A	A	(3.5)	[3.3] A	[2.8] A	2.2					
3							(1.8)	2.6	(3.2)	(3.2)	3.7	3.8	[3.8] C	(3.8)	3.7	3.6	[3.1] A	2.7	A					
4							1.8	(2.4)	[2.8] A	(3.3)	[3.5] A	3.7	3.7	3.7	(3.5)	3.4	3.1	2.7	2.0					
5							K	[2.4] A K	3.0 K	(3.2) K	3.6 K	3.6 K	3.6 K	3.6 K	3.6 K	3.4 K	A K	A K	A K					
6							A	2.4	(2.8)	(3.2)	(3.5)	3.6	3.6	(3.6)	(3.3)	3.3	(3.0)	[2.5] A	1.8					
7							C	2.5	2.8	C	C	C	C	C	(3.3)	3.3	(2.9)	2.3	1.6					
8							1.6	2.5	(2.9)	[3.2] C	[3.4] A	(3.7)	A	A	A	(3.3)	A	A	A					
9							1.6	(2.5)	A	C	C	C	C	C	C	(3.3)	3.0	(2.4)	1.9 H					
10							A	A	A	3.0	3.3	A	A	A	C	3.2	2.9	[2.5] A	A					
11							1.6	2.4	(2.9)	[3.1] C	C	C	C	3.6	[3.5] C	3.3	2.9	2.5	1.6 H					
12							1.8	2.5	A	C	C	3.7	(3.7)	[3.7] C	[3.5] C	3.4	(3.0)	[2.5]	1.7 H					
13							1.7	[2.6] A	A	C	C	3.9	3.8	3.7	[3.4] B	[3.7] C	(3.2)	2.6	1.7 H					
14							1.7	[2.4] A	[2.8] C	A	C	C	C	C	C	C	3.1	2.5	A					
15							1.6	2.5	[3.0] A	(3.3)	C	C	C	3.7	[3.6] C	[3.4] C	(3.1)	2.6	1.8					
16							C	C	C K	A K	C K	[3.7] C K	3.7 K	[3.6] C K	(3.5) K	[3.4] C K	(3.3) K	2.6	1.9 K					
17							C	2.5	[2.8] A	[3.3] A	3.7	3.8	(3.7)	(3.6)	3.6	(3.4)	3.1	2.4	A					
18							(1.8) K	(2.7) K	2.9 K	[3.2] C K	(3.5) K	C K	C K	C K	C K	(3.0) K	2.9 K	(2.5) K	1.8 K					
19							A K	2.5 K	3.0 K	[3.1] C K	[3.3] C K	[3.6] C K	[3.7] C K	[3.7] C K	3.6 K	(3.4) K	3.1 K	A K	A K					
20							(1.8) K	2.5 K	2.9 K	[3.3] C	(3.5)	C	C	C	[3.4] C	(3.0)	[2.9] C	2.4 H	C					
21							A	(3.2)	[3.3] C	[3.4] C	C	C	C	C	(3.5)	3.4	(3.1)	2.5	C H					
22							B K	C K	C K	B K	C K	C K	B K	C K	[3.4] C K	[3.1] C K	2.8 K	[2.4] B K	A K					
23							C K	(2.4) K	3.0 K	3.4 K	B K	B K	B K	C K	C K	C K	2.8 K	2.2 H K	1.7 K					
24							(1.9) K	2.5 K	[2.9] C	[3.4] C	(3.6)	[3.7] C	C	C	C	C	3.0	[2.4] A						
25							C	2.5	[3.0] C	[3.5] C	3.7	(3.7)	[3.7] C	3.7	[3.6] C	[3.4] C	(3.1)	(2.1)	1.6					
26							A	2.5	2.9	C	C	C	C	3.7	(3.7)	(3.5)	3.1	2.4	1.6					
27							C	2.3	2.9	3.3	C	C	C	C	C	C	(3.0)	B	B					
28							1.7 K	2.4 K	2.8 K	(3.1) K	C K	C K	C K	C K	3.5 K	[3.3] C K	2.9 K	[2.1] B K	1.6 K					
29							[1.7] A K	2.4 K	C K	C K	A K	A K	(3.6) K	C K	A K	C K	(2.8) K	2.2 K	C K					
30							1.6 H	2.3 H	2.8	C	C	C	C	C	C	C	C	C	C					
31																								
Median							1.7	2.5	(2.9)	(3.2)	3.5	(3.7)	(3.7)	(3.7)	(3.5)	(3.4)	3.0	2.5	1.7					
Count							17	27	23	20	14	13	12	14	19	24	26	24	15					

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1948 O - 705519

TABLE 68

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

Es (Characteristic), Mc, km (Unit) September (Month), 1946

National Bureau Of Standards (Institution)

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

Scaled by: A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.3 100	3.4 100	2.4 100		2.3 110	2.3 100	C	2.4 100	C	3.8 120	5.0 110		5.3 110	4.9 110	5.3 110	4.6 110	4.3 110	3.9 110	2.8 110		2.3 120	4.5 110	6.0 110	5.8 100
2	4.4 100	3.5 110 H	3.8 100	4.4 110	2.7 110	2.8 110	2.7 110 H	3.9 130	5.3 110	3.9 110	5.3 110	5.3 110	4.8 110	5.3 110	5.3 110	5.1 110	6.7 110	5.1 100	4.1 110	2.9 100	2.4 110	4.4 110	5.2 110	3.7 110
3	2.9 110	2.9 120	2.3 100	2.2 120	2.4 110		2.9 110	4.7 120	3.8 120	3.8 120	3.8 120	3.9 130		3.9 120	5.1 100	5.2 100	4.6 100	2.9 100	3.2 100	2.9 100	2.7 110	3.7 110		
4							2.9 100	3.7 120	4.2 110	5.1 110	4.5 110		4.0 120		3.8 120	3.7 120	3.7 120	3.0 120					6.0 110	5.1 110
5		3.8 110	3.3 110	2.9 110	2.3 110	2.2 100	3.7 110	3.9 110	5.0 110	5.2 110	5.3 110	5.5 120	5.3 120	5.6 120	6.8 120	5.3 110	6.6 110	5.1 110	4.0 110	4.4 110	3.5 110	2.7 110	2.3 110	
6	2.3 110	2.2 100		2.7 110	5.3 110	5.3 100	2.9 110	3.7 110	3.8 120	3.8 110	3.8 110		3.7 110			4.0 120	5.3 110	2.9 100	2.4 100	2.4 100			2.3 100	2.3 100
7				2.3 110		3.8 110	3.9 100	2.9 110	3.7 140	5.2 120	3.9 110							2.9 110					2.3 110	
8			(1.1) (160)	(1.1) (150)	3.4 100	2.3 130	(2.9) 100	3.8 130	3.8 120	3.6 120	3.8 110	5.2 100	4.9 100	4.4 110	4.4 110	3.8 100	5.2 100	5.2 100	4.5 100 H	2.4 110	(2.9) 100		2.9 110	2.3 110
9	(2.2) 100	2.1 110		4.3 120	2.3 100	2.9 100	3.7 100	5.1 110	3.8 110										2.0 130	2.9 120	2.4 100	4.6 100	4.9 100	3.7 110
10	2.4 110	2.4 110	3.2 100	4.9 100	4.3 110	2.6 110	2.9 100	3.8 110	3.8 110	3.8 120	4.9 120	3.8 110	3.8 110	3.8 110		3.7 130	3.7 130	3.0 100	3.6 100	2.4 110	2.7 110	3.2 110	3.8 110	2.4 100
11		2.2 110	3.1 110	5.3 100				2.9 100																
12				2.8 110		2.4 100	2.4 100	2.9 130		3.5 110	3.8 100	3.8 110	3.8 120				2.8 110	2.6 120			2.9 110	2.4 100	2.9 100	3.9 100
13	3.6 100	2.7 100	2.1 100		2.3 120	2.2 120	2.9 130	3.8 110	3.7 110					B			2.9 120						2.3 110	
14					2.2 100	2.3 100	2.9 110	2.9 110	3.3 120	5.2 110									2.0 120	2.3 110			2.0 120	
15							2.4 140	2.9 110	3.8 110								3.2 140	3.7 110	2.2 150	2.3 100	2.3 110	2.2 120		
16								3.8 120		3.7 130	3.8 120				3.7 110			2.4 130	2.3 100				2.2 170	2.6 130
17	2.2 130		2.0 120	5.3 110	4.4 110	2.1 110	3.6 110	4.4 110	4.3 110	5.0 110	4.3 110	3.9 110	5.2 110	5.2 110	4.0 120	3.9 120	3.4 130	3.9 120	2.5 120	4.5 130		3.2 150	6.6 130	3.7 130
18	3.8 120	2.8 120	2.9 110	5.0 110	2.8 120	2.9 110	2.4 110	2.8 150						C	C			2.7 120	2.4 110			2.0 200		
19						2.0 140	2.9 110						3.8 140	3.8 140	3.9 130	4.1 120	3.4 120	2.8 110	2.9 110		2.1 110		2.3 110	
20				2.9 110	2.9 110	2.7 110	5.3 110	3.8 110	3.4 120	3.7 120	5.0 120			5.0 110	C				2.9 150		1.8 110			
21		2.3 100	1.2 120	1.3 110	3.7 120	5.3 110	2.7 110				3.7 110					3.3 130		2.8 110	2.4 110					
22	3.5 130	3.7 120	2.7 120	2.4 100	2.9 90	1.8 120	2.4 120	3.8 120	5.0 110			3.8 160	3.7 100	3.8 110	3.6 120		2.8 160	2.6 140	7.0 130	7.0 130	2.0 130			
23	2.7 150	2.3 120	2.4 90	2.4 90	2.3 100			2.8 130				3.0 110	3.0 110						2.4 110	2.8 140	2.4 140	C	C	C
24		5.3 120	3.8 110	3.8 100	2.9 110		2.3 100				5.2 120				3.8 100		2.8 120	2.4 120					1.7 110	
25														C	C	C	3.4 120	2.4 120	1.6 110				2.3 100	2.4 100
26	2.4 100	1.7 130	2.3 100	2.3 100		3.8 110	(2.9) 110	3.7 100		3.7 110	5.2 110							2.6 120	2.4 120	2.4 110	2.8 110	2.3 100	C	2.3 100
27	2.4 100	1.3 110	1.2 100		2.9 120	(0.9) 160		2.4 110		C	C	C	C	C	C	C				2.9 110	2.2 110			
28						1.7 150	2.4 110				C	C	C	C		3.2 120							1.9 150	4.7 130
29	7.2 120	C	C	C	5.0 110	4.3 100	3.8 100		C	C	4.0 110	3.7 110			4.0 110		3.4 120	3.7 130	2.7 120	1.7 120				
30					4.4 100	2.4 150	1.8 150									C	C	C	C	C		2.3 110		
31																								
Median	* *	1.7	1.2	2.3	2.3	2.2	2.9	2.9	3.4	3.6	3.8	* *	* *	* *	* *	* *	2.8	2.7	2.4	1.7	1.8	* *	2.2	* *
Count	30	29	29	29	30	30	29	30	28	28	28	28	28	25	26	27	29	29	29	29	30	29	28	29

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

* * Median fE_s less than median f^oE, or less than lower frequency limit of recorder. Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702519

TABLE 69

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

F2-M1500 (Characteristic), _____ (Unit), September (Month), 1946

Observed at Washington, D. C.

Lat 39.0° N, Lang 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.8 K	1.8 K	1.8 K	1.8 F K	1.8 K	1.7 K	(2.1) J	2.1	2.1	2.1	2.1	1.8	1.8	1.8	1.8	1.9	1.9	(1.9)	1.9	(1.9)	1.9	1.8	1.7	(1.7)
2	1.8	1.8	1.7	1.7	1.8	1.9	2.2	2.0	2.1	2.1	1.9	1.8 H	1.8	1.9	1.8	1.8	1.9	(1.9)	1.9	(2.0)	(1.9) J	1.9	(1.9) J	1.8
3	1.8	1.7	1.9 F	1.7 F	1.9 F	1.8 F	2.0	2.1	2.0	(2.0)	(1.8) J	1.9	1.8	1.8	1.8	(1.9)	1.9	1.9	2.0	(1.9)	1.9	1.8	(2.0)	1.9
4	1.9	1.7	1.7 F	1.6 F	1.6 F	1.9 F	(2.0)	(2.2) J	(2.1) J	(2.0)	2.0	1.9	1.8	1.8	1.8	(1.9)	1.9	2.0	(2.0)	(2.0)	C	(2.0) J	(1.9)	1.9
5	1.8	1.8	1.9	1.8	1.8 F	1.9 F	(2.2) J K	(2.3) K	(1.9) K	(2.4) J K	1.9 K	(1.9) K	1.8 K	1.8 K	1.7 K	1.8 K	1.8 K	(1.9) K	1.9 K	(2.0)	2.0	1.8	1.8	1.8 F
6	1.7 F	1.8 F	1.8 F	1.9 F	2.0 F	(1.8) F	2.0 F	2.2	1.9	2.0	1.9	1.9	2.0	1.9	2.0	2.0	2.0	2.1	(2.1)	2.0	2.2	(1.9)	1.9	1.9 F
7	C	1.8 F	1.8 F	1.8 F	(1.9) F	1.6 F	2.0	2.1	1.8	1.9	1.9	1.8	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.8
8	1.8	1.8 F	1.8 F	1.8 F	1.8 F	1.8 F	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	(2.1)	(2.0)	1.9	1.9	1.9
9	1.8 F	1.9	1.9	1.9	1.9	2.3	(2.3) F	2.2	2.2	2.0	2.0	1.9	1.8	1.9	(1.9)	2.0	(2.0)	2.1	(2.1)	(2.0)	2.0	(1.9) J	(1.9)	1.9
10	1.9	(1.8) J	1.7	1.7	1.7 F	1.6 F	1.9	2.0	2.1	(2.0)	1.9	1.8	1.9	1.9	2.0	2.0	(2.0)	2.1	(2.0)	C	(2.0) J	1.9	1.8	1.9
11	1.9	1.8	1.8 F	1.7	1.8 F	1.8	2.1	1.9	(2.0) J	1.9	1.9	(2.2)	(1.9)	1.9	1.9	1.9	(2.0)	2.0	(2.1)	2.0	1.9	1.9	1.9	1.9
12	1.8 F	1.8	1.9 F	1.8 F	1.7	(1.8)	1.9	(2.2) J	2.1	2.2	(2.0)	(2.0)	1.9	2.0	2.0	2.0	2.0	1.9	(2.0)	(1.9) J	(1.9)	(2.0) J	(1.9)	(1.8)
13	(1.7)	(1.7)	(1.8)	1.8	1.9	2.0	2.1	2.2	2.1	2.1	(2.0)	1.9	1.8	C	(2.1)	1.9	2.0	2.0	C	(1.9) J	(2.0)	1.9	(1.9)	(1.9)
14	1.9	2.0 F	(2.0) F	2.0 F	(1.9) F	1.9 F	2.0	2.1	2.0	2.2	2.2	2.0	2.0	1.9	2.0	1.9	2.1	1.9	2.0	(2.0)	(1.8) J	1.8	1.9	C
15	1.9	C	C	1.8	1.7	1.8	2.0	(2.1) J H	2.1	2.0	2.1	2.0	1.8	2.0	2.0	1.9	2.0	2.0	2.1	1.9	1.9	1.9	1.8	1.8
16	1.9	1.8	1.8	1.8	1.9	1.9	C	C	C K	C K	C K	(1.9) K	1.9 K	1.7 K	(1.7) J K	(1.6) J K	(1.8) D K	(1.9) D K	(2.0) J K	(1.8) K	(1.7) K	1.5 K	1.6 K	1.6 K
17	(1.7)	1.8	(1.7) J	1.8	1.7	(1.8) J	(2.0)	2.2	2.1	(2.1) J	(2.0) J	1.9 H	D	1.9	1.9	(1.9)	(2.0)	(2.1)	C	C	(1.7) K	(1.6) K	(1.4) K	1.5 K
18	(1.6) K	(1.6) F K	(1.5) F K	(1.6) F K	1.6 F K	1.5 F K	1.6 F K	(1.4) K	G K	G K	G K	G K	G K	G K	G K	(1.4) K	1.9 K	1.8 K	1.8 K	1.7 K	(1.7) J K	1.8 F K	1.6 F K	F K
19	1.4 F K	(1.6) F K	1.7 F K	F K	1.7 F K	1.6 F K	2.1 K	1.9 K	1.7 K	G K	G K	1.4 K	1.7 K	1.6 K	1.8 K	1.8 K	1.8 K	2.0 K	(1.9) K	2.0 K	1.9 K	1.9 K	1.8 K	1.8 K
20	1.8 F K	1.7 F K	1.8 F K	1.7 F K	(1.7) F K	1.9 F K	2.1 K	2.1 K	2.0 K	(2.0)	(1.9) H	1.9	2.0	1.9	(1.9)	(1.9)	1.9	2.0	2.0	2.0	(1.8)	1.8	1.8	1.8
21	1.8	1.8	1.9 F	1.8 F	1.9 F	2.0 F	2.2	(2.2)	2.1	2.0	1.9	(1.9)	1.8	1.8	1.7	1.8	(1.8)	C	C	C	C	1.7	1.8 K	1.8 K
22	1.9 F K	1.6 F K	1.5 F K	1.4 F K	1.5 F K	1.7 F K	(1.8) K	G K	G K	B K	G K	G K	G K	G K	G K	G K	G K	G K	1.8 K	1.6 K	1.7 F K	B K	F K	B K
23	1.7 K	B K	B K	B K	B K	(1.6) K	1.9 K	C K	G K	G K	B K	B K	B K	C K	G K	1.6 K	1.6 K	1.7 K	1.6 K	(1.5) F K	F K	C K	C K	C K
24	C K	(1.6) F K	F K	F K	F K	C K	2.0 F K	(2.2) K	(2.1)	2.2	(2.2) J	2.1	(2.0) J	(1.9)	1.9	2.0	2.0	2.0	C	(2.0) J	1.8	1.9	1.9	(1.9) J
25	(1.9)	2.0	1.9	1.8 F	1.9 F	1.9 F	2.2	2.2	(2.3) J	(2.2)	2.0	1.9	1.9	(1.9)	C	C	(1.9)	(1.9) J	C	2.0	(1.9) J	(1.8)	1.8	1.8
26	1.8	1.9	1.9	1.7	1.7 F	1.8	2.0	(2.2)	2.0	(2.1) J	2.0	1.9	(1.9)	1.8	1.8	1.8	(1.8)	(1.9) J	(2.0)	(2.0)	(1.8)	(1.9)	C	1.8
27	C	1.8	(1.8)	1.7	(1.6) F	(1.7) F	C	2.0	(1.9)	1.9	C	C	C	C	C	C	1.8	1.7	(1.9)	C	(1.8) K	1.8 K	1.8 K	1.7 K
28	(1.7) F K	1.6 K	(1.5) K	1.8 F K	1.7 F K	1.6 F K	1.8 F K	1.8 K	(1.9) K	(1.8) K	C K	C K	C K	C K	1.7 K	(1.7) J K	(1.7) J K	1.8 K	(1.8) K	(1.6) K	(1.6) F K	C K	(1.5) F K	(1.6) K
29	A K	C K	C K	C K	C K	C K	2.0 K	2.1 K	C K	2.0 K	1.8 K	1.8 K	1.7 K	1.7 K	(1.8) K	1.7 K	1.8 K	1.8 K	1.9 K	1.8 K	1.8 K	1.7 K	1.7 K	1.6 K
30	1.7 F K	(1.7) K	(1.7) F K	1.7 F K	(1.6) F K	1.7 F K	1.9	2.1	2.1	(2.0) J	1.9	(1.9)	1.8	1.9	(1.9) J	C	C	C	C	C	(2.0) J	C	C	C
31																								
Median	1.8	1.8	1.8	1.8	1.8	1.8	2.0	2.8	2.0	2.0	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	2.0	(2.0)	(1.9)	1.8	1.8	1.8
Count	26	27	26	26	27	28	28	21	28	29	26	27	27	26	29	27	29	28	24	24	27	26	26	27

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 703318

TABLE 70

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

F2-M3000 (Characteristic), (Unit) September (Month), 1946

Observed at Washington, D. C.

Lot 39.0° N, Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.7K	2.7K	2.8K	2.8F K	2.8K	2.6K	(3.1)J	3.1	3.1	3.1	3.1	2.7	2.7	2.7	2.7	2.8	2.8	(2.8)	2.9	(2.9)	2.8	2.8	2.6	(2.6)
2	2.8	2.8	2.6	2.6	2.8	2.8	3.2	3.0	3.1	3.1	2.8	2.8N	2.8	2.8	2.7	2.8	2.8	(2.9)	2.9	(2.9)	(2.9)J	2.9	(2.9)J	2.8
3	2.7	2.7	2.9F	2.7F	2.8F	2.8F	3.0	3.0	3.0	(3.0)	(2.8)J	2.9	2.7	2.7	2.8	(2.9)	2.8	2.8	3.0	(2.8)	2.8	2.7	(3.0)	2.9
4	2.9	2.6	2.5F	2.5F	2.6F	2.8F	(3.0)	(3.2)J	(3.0)J	(3.0)	3.0	2.8	2.7	2.8	2.8	(2.8)	2.9	3.0	(3.0)	(2.9)	C	(3.0)J	(2.8)	2.8
5	2.8	2.7	2.8	2.8	2.7F	2.9F	(3.3)J	(3.3)K	(2.9)K	(3.4)K	2.8K	(2.8)K	3.8K	2.7K	2.6K	2.8K	2.8K	(2.9)K	2.9K	(3.0)	3.0	2.7	2.7	2.7F
6	2.6F	2.7F	2.8F	2.9F	3.0F	(2.7)F	3.0F	3.2	2.8	3.0	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.1	(3.1)	3.0	3.2	(2.8)	2.9	2.9F
7	C	2.7F	2.8F	2.7F	(2.8)F	2.5F	3.0	3.0	2.8	2.8	2.9	2.7	3.1	2.9	2.9	2.9	2.9	2.8	2.9	2.9	2.9	2.8	2.9	2.7
8	2.8	2.8F	2.8F	2.7F	2.8F	2.7F	3.0	3.0	3.1	3.0	3.0	3.0	3.0	2.9	3.0	3.0	3.0	3.0	3.1	(3.1)	(3.0)	2.9	2.9	2.8
9	2.8F	2.9	2.9	2.8	2.9	3.3	(3.3)F	3.2	3.2	3.0	3.0	2.9	2.7	2.8	(2.9)	3.0	(3.0)	3.1	(3.1)	(3.1)	3.0	(2.9)J	(2.9)	2.9
10	2.8	(2.7)J	2.7	2.6	2.6F	2.5F	2.8	3.0	3.1	(3.0)	2.9	2.8	2.8	2.8	3.0	3.0	(3.0)	3.1	(3.0)	C	(3.0)J	(2.9)	2.8	2.8
11	2.9	2.8	2.7F	2.7	2.7F	2.8	3.1	2.9	(3.0)J	2.9	2.9	(3.2)	(2.9)	2.9	2.8	2.9	(3.0)	3.0	(3.1)	3.0	2.9	2.8	2.8	2.8
12	2.8F	2.7	2.9F	2.7F	2.7	(2.8)	2.9	(3.2)J	3.1	3.2	(3.0)	(3.0)	2.9	3.0	3.0	3.0	3.0	2.9	(3.0)	(2.9)J	(2.9)	(3.0)J	(2.8)	(2.8)
13	(2.7)	(2.6)	(2.7)	2.8	2.8	2.9	3.1	3.2	3.1	3.1	(3.0)	2.9	2.8	C	(3.1)	2.9	3.0	3.0	C	(2.9)J	(2.9)	2.9	(2.9)	(2.9)
14	2.9	3.0F	(3.0)F	3.0F	(2.9)F	2.8F	3.0	3.1	3.0	3.2	3.2	3.0	3.0	2.9	2.9	2.9	3.1	2.9	3.1	(2.9)	(2.8)J	2.8	2.9	C
15	2.9	C	C	2.7	2.7	2.8	3.0	(3.1)J	3.0	3.0	3.0	3.0	2.8	2.9	2.9	2.9	3.0	2.9	3.1	2.9	2.8	2.8	2.7	2.8
16	2.9	2.7	2.7	2.8	2.8	2.9	C	C	C K	C K	C K	(2.9)K	2.8K	2.6K	(2.7)J K	(2.5)J K	(2.7)D K	(2.9)J K	(3.0)J K	(2.8)J K	(2.6)K	2.3K	2.5K	2.5K
17	(2.6)	2.7	(2.6)J	2.7	2.6	(2.7)J	(3.0)	3.2	3.2	(3.1)J	(3.0)J	2.8M	D	2.9	2.9	(2.9)	(2.9)	(3.1)	C	C	(2.6)K	(2.5)K	(2.2)K	2.3K
18	(2.5)K	(2.4)F K	(2.7)F K	(2.4)F K	2.4F K	2.3F K	2.4F K	(2.2)F K	G K	G K	G K	G K	G K	G K	G K	(2.1)K	2.9K	2.7K	2.7K	2.6K	(2.7)J K	2.8F K	2.5F K	F K
19	2.2F K	(2.5)F K	2.7F K	F K	2.5F K	2.5F K	3.1K	2.9K	2.5K	G K	G K	2.1K	2.6K	2.5K	2.7K	2.8K	2.8K	2.9K	(2.9)K	3.0K	2.9K	2.9K	2.8K	2.7K
20	2.7F K	2.7F K	2.7F K	2.6F K	(2.6)K	2.8F K	3.1K	3.1K	3.0K	(2.9)	(2.9)M	2.9	2.9	2.9	(2.9)	(2.8)	2.9	3.0	3.0	3.0	(2.7)	2.9	2.8	2.8
21	2.8	2.7	2.8F	2.8F	2.9F	3.0F	3.3	(3.2)	3.1	3.0	2.8	(2.8)	2.8	2.8	2.6	2.7	(2.7)	C	C	C	C	2.7	2.7K	2.7K
22	2.8F K	2.4F K	2.3F K	2.2F K	2.3F	2.6F K	(2.7)K	G K	G K	B K	G K	G K	G K	G K	G K	G K	G K	G K	2.6K	2.4F K	2.6F K	B K	F K	B K
23	2.6K	B K	B K	B K	B K	(2.4)K	2.9K	C K	G K	G K	B K	B K	B K	C K	G K	2.4K	2.5K	2.6K	2.5K	(2.4)F K	F K	C K	C K	C K
24	C K	(2.5)F K	F K	F K	F K	C K	3.0F K	(3.2)K	(3.2)	3.2	(2.2)J	3.1	(3.0)J	(2.9)	2.9	3.0	3.0	3.0	C	(3.0)J	2.8	2.8	2.8	(2.8)J
25	(2.8)	2.9	2.8	2.8F	2.9F	2.9F	3.3	2.3	(3.3)J	(3.2)	3.0	2.9	2.8	(2.9)	C	C	(2.9)	(2.8)J	C	3.0	(2.9)J	(2.8)	2.7	2.8
26	2.8	2.8	2.8	2.6	2.7F	2.7	3.0	(3.2)	3.0	(3.1)J	3.0	2.8	(2.8)	2.8	2.8	2.8	(2.8)	(2.9)J	(3.0)	(3.0)	(2.8)	(2.8)	C	2.7
27	C	2.7	(2.8)	2.6	(2.6)F	(2.6)F	C	3.0	(2.9)	2.9	C	C	C	C	C	C	2.7	2.7	(2.9)	C	(2.7)K	2.8K	2.8K	2.7K
28	(2.6)F K	2.4K	(2.4)K	2.8F K	2.6F K	2.5F K	2.7F K	2.8K	(2.8)K	(2.7)K	C K	C K	C K	C K	2.7K	(2.6)J K	(2.7)J K	2.7K	(2.8)K	(2.5)K	(2.5)F K	C K	(2.4)F K	(2.5)K
29	A K	C K	C K	C K	C K	C K	3.0K	3.1K	C K	3.0K	2.7K	2.7K	2.5K	2.6K	2.7K	2.6K	2.7K	2.7K	2.8K	2.8K	2.8K	2.5	2.5K	2.5K
30	2.6F K	(2.6)K	(2.6)F K	2.6F K	(2.5)F K	2.6F K	2.8	3.1	3.1	(3.0)J	2.8	(2.9)	2.7	2.9	(2.9)J	C	C	C	C	C	(3.0)J	C	C	C
31																								
Median	2.8	2.7	2.8	2.7	2.7	2.8	3.0	3.1	3.0	3.0	2.9	2.9	2.8	2.8	2.8	2.8	2.9	2.9	3.0	(2.9)	(2.8)	2.8	2.8	2.8
Count	26	27	26	26	27	28	28	28	28	29	26	27	27	26	28	27	29	28	24	25	27	26	26	25

Sweep 0.75 Mc to 11.5 Mc In 3.4 min

Monuoi ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702519

TABLE 71

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D C

Form adopted June 1946

IONOSPHERIC DATA

FI-M3000, ____ (Characteristic) (Unit) September, 1946 (Month)

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W 75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by: A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1								L	L	35	38H	C	(34)	35	34	36	(36)	L						
2									L	35	37H	38	36	34	34	35	L	L						
3								L	(35)H	35H	39H	(38)	(35)	(34)	(34)	(38)	L	L						
4								L	L	C	38	36	33	34	(35)	L	L	L						
5								L K	(35)K	36K	37K	(38)K	AK	36K	AK	(32)K	34K	L K						
6								L	L	(36)	(38)H	(35)	35H	35	(36)	(36)	L	L						
7									(33)	L	33	33	37H	36	36	33	L	L						
8								L	L	L	(37)	37H	(34)H	(36)	36	(35)	L	L						
9								L	L	LH	L	LH	(34)H	34	(34)	37	38	38						
10								34	35	L	36	(33)	35	35	35	35	L	L						
11								32	L	34	36	37	35	36	35	35	L	L						
12								L	36	L	(35)	(36)H	37	36H	(36)	36	L	L						
13									L	36	(36)	36	(36)H	38	B	(36)	L							
14								L	L	(37)	36H	C	35	C	(36)	36	L	L						
15									L	35	36	36	(36)H	37	36H	(36)	(37)							
16									L K	L K	(37)K	C K	CH K	34K	35HK	(35)K	L K	L K						
17								L	L	L	38	39	C	C	38	L	L	L						
18								29K	32K	34K	(37)K	37HK	35HK	35K	34K	(33)K	35K	L K						
19								33K	32K	33HK	36K	35K	35K	34K	33K	34K	(36)K	L K						
20									L K	36H	37	C	37	38	36H	(36)	L							
21									L	L	38	L	(35)	(35)	L	L	L	L						
22								B K	(36)K	B K	35K	35K	35K	34K	35K	35K	31K							
23									32K	37K	B K	B K	B K	C K	34K	32K	31K							
24								L K	L	40	42	L	L	L	L	L	L							
25									L	L	L	L	(38)	37	C	C	L							
26									L	LH	L	L	L	L	L	L	L							
27								L	(36)	(37)	C	C	C	C	C	C	L							
28									L K	33K	C K	C K	C K	C K	32K	C K	L K	36K						
29									C K	(35)K	34K	35K	34K	32HK	32HK	32HK	L K	L K						
30									L	L	(36)	C	(36)	C	(36)	C	C	C						
31																								
Median									35	35	37	36	35	35	35	35	36							
Count								4	10	17	24	17	32	22	23	21	8	2						

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Monuol ☐ Automatic ☒

TABLE 72

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

E-M1500 (Characteristic), _____ (Unit), September (Month), 1946

Observed at Washington, D. C.

Lat 39.0° N, Long 77.5° W

75° W Mean Time

National Bureau Of Standards (Institution)

Scaled by A. K. B., J. L. S.

Calculated by: A. M. K., B. W. D.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							(3.7)H	C	(4.2)	A	4.[illegible]	C	A	A	(4.3)	(4.4)	A	A	A					
2							(3.9)H	4.3	4	4.3	4.2	A	A	A	A	4.3	1	A	3.8					
3							(3.4)	[illegible]	[illegible]	(4.5)	4.5	4.[illegible]	C	(4.3)	4.3	4.2	A	4.2	A					
4							3.7	(4)	4	[illegible]	4	−2	4.3	4.2	(4.2)	4.[illegible]	−2	4.5	3.8					
5							A K	4 K	4.2 K	[illegible] K	−2 K	−3 K	4.3 K	4.2 K	4.[illegible] K	4.2 K	4 K	A K	A K					
6							A	4.[illegible]	4.2	[illegible]	[illegible]	4.2	4.4	(4.2)	(4.3)	[illegible]	(4.0)	A	3.[illegible]					
7							C	4.[illegible]	4.3	[illegible]	C	C	C	C	−2	(4.2)	4.3	4.2	4.3					
8							4.3	4.2	(4.2)	C	A	(4.4)	A	A	A	(4.3)	A	A	A					
9							(3.9)	(4.1)	A	C	[illegible]	C	C	C	[illegible]	4.3	4.2	(4.3)	(4.1)H					
10							A	A	A	(4.2)	4.2	A	A	A	C	4.1	4.2	A						
11							C	4.1	(4.2)	C	C	C	C	(4.1)	C	(4.0)	4.3	4.C	4.C H					
12							(4.0)	4.1	A	[illegible]	[illegible]	(4.2)	(4.3)	C	[illegible]	4.0	(4.1)	A	3.7H					
13							4.2	A	A	[illegible]	[illegible]	[illegible]	4.[illegible]	(4.1)	B	[illegible]	4.0	3.9	3.7H					
14							C	A	[illegible]	A	C	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	4.1	4.[illegible]	A					
15							(3.3)	4.2	A	[illegible]	[illegible]	[illegible]	[illegible]	4.[illegible]	[illegible]	[illegible]	(4.0)	4.C	3.7					
16							C.	C	[illegible] K	4 K	[illegible] K	C K	4.1 K	C K	(4.1) K	C K	(4.1) K	4.C K	(3.5) K					
17							C	3.6	A	A	(4	−2	(4.2)	(4.3)	(4.2)	(4.1)	4.C	4.2	A					
18							(4.5) K	4.1 K	4.C K	C K	(3.9) K	C K	C K	C K	C K	(4.0) K	4.C K	(4.0) K	4.C K					
19							A K	4.C K	4.0 K	C K	[illegible] K	[illegible] K	C K	C K	4.C K	(4.C) K	4.C K	A K	A K					
20							C K	4.C K	4.C K	[illegible]	−3	C	C	C	[illegible]	(4.3)	C	3.5 H	C					
21							C	(4.1)	C	C	[illegible]	[illegible]	C	C	(4.[illegible]	4.[illegible]	(4.2)	4.[illegible]	[illegible]					
22							B K	B K	C K	B K	[illegible] K	C K	(4.2) K	(4.2) K	C K	[illegible] K	4.2 K	B K	C K					
23							C K	(4.1) K	4.C K	4.[illegible] K	5 K	3 K	B K	C K	C K	[illegible] K	4.2 H K	3.C H K	C H					
24							(4.3) K	4.1 K	C	C	(4.2)	C	C	C	C	[illegible]	4.[illegible]	A						
25							C	4.1	[illegible]	[illegible]	4.2	(4.3)	C	4.[illegible]	[illegible]	C	3.9	(4.3)	C					
26							A	3.9	(4.3)	[illegible]	C	C	C	4.[illegible]	(4.C)	(4.0)	4.0	4.2	C					
27							C	(4.3)	4.3	4.2	C	[illegible]	C	C	[illegible]	C	(4.3)	B	3					
28							C K	3.C K	4.[illegible] K	(4.0) K	C K	C K	[illegible] K	C K	(4.1) K	C K	4.[illegible] K	3.C H K	C K					
29							A K	4.2 K	[illegible] K	[illegible] K	A K	A K	(4.4) K	C K	A K	C K	(4.1) K	3.9 K	[illegible] K					
30							3.3 H	4.C H	4.1	[illegible]	C	C	C	C	C	C	[illegible]	C	C					
31																								
Median							(3.9)	4.1	4.2	(4.2)	4.2	4.2	4.2	(4.2)	(4.2)	(4.1)	4.1	4.C	3.8					
Count							12	23	16	15	11	9	9	11	12	18	23	18	11					

Sweep 0.75 Mc to 11.5 Mc in 3.4 min

Manual ☐ Automatic ☒

Table 73

Ionospheric Storminess, September 1946

Day Sept.	Ionosphere Character* 00-12 GCT	12-24 GCT	Principal Storms Beginning GCT	End GCT	Geomagnetic Character ** 00-12 GCT	12-24 GCT
1	4	2	----//	1100	1	1
2	2	0			2	1
3	1	1			1	2
4	2	1			3	2
5	1	4	1100	----/	2	2
6	2	1	----	0000	2	0
7	2	3			2	3
8	1	2			2	2
9	1	3			2	3
10	3	2			3	2
11	1	2			2	2
12	2	2			2	2
13	1	2			2	2
14	1	2			2	2
15	1	2			1	2
16	1	4	///	----	1	4
17	3	3	----	0500	3	3
18	5	7	0100	----	6	6
19	7	5	----	----	4	4
20	4	2	----	1400	2	1
21	1	0			1	4
22	5	7	0300	----	6	7
23	6	7	----	----	6	6
24	8	2	----	1300	3	2
25	0	3			1	1
26	1	2			1	2
27	3	***			3	4
28	4	4	0100	----	5	5
29	***	4	----	----	3	3
30	3	2	----	1100	4	3

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D.C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of American magnetic K-figure, determined by a number of observatories, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

***No readable record. Refer to Table 62 for detailed explanation.

/Dashes indicate continuing storm.

//Storm continuing from 2300 August 31.

///Time of beginning unknown because of loss of record. Storm probably began about 1300, or earlier.

Table II

Ionosphere Disturbances Observed at Washington, D.C.

Day	GCT Beginning	GCT End	Location of Transmitters	Relative Intensity at minimum*	Other Phenomena
September 2	1824	1900	Ohio, D.C., Mexico, Ontario	0.2	
3	1646	1725	Ohio, D.C., Ontario	0.2	
12	1856	1920	Ohio, D.C., Mexico, New Brunswick, Ontario	0.1	
13	1325	1405	Ohio, D.C., England, Mexico, Ontario	0.2	
13	1820	1925	Ohio, D.C., England, Mexico, Ontario	0.0	Terr. mag. pulse** 1820-1845
15	1708	1735	Ohio, D.C., Mexico, Ontario	0.1	
16	1446	1500	Ohio, D.C., Mexico, Ontario	0.1	
17	1718	1740	Ohio, D.C., England Mexico, Ontario	0.1	Terr.mag. pulse** 1715-1740
20	1511	1550	Ohio, D.C., England Mexico, New Brunswick Ontario	0.1	
20	2000	2150	Ohio, D.C., Ontario	0.2	
27	1741	2130	Ohio, D.C., Mexico, New Brunswick, Ontario	0.0	Terr.mag. pulse** 1740-1755
29	1603	1740	Ohio, D.C., Ontario	0.0	
30	1530	1650	Ohio, D.C., Ontario	0.0	

*Ratio of received field intensity during SID to average field intensity before and after, for station W8XAL, 6080 kilocycles, 600 kilometers distant.

**As observed on Cheltenham magnetogram of the United States Coast and Geodetic Survey.

Table 75

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief

Cable and Wireless, Ltd.

Day	GCT Beginning	GCT End	Receiving Station	Location of Transmitters
August 14	1015	1100	Brentwood, England	Belgian Congo, Brazil, Bulgaria, Canary Islands, Greece, India, Iran, Kenya, Madagascar, Palestine, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Yugoslavia, Zanzibar
14	1020	1125	Somerton, England	Australia, Canada, China, Egypt, New York, Nigeria, Union of South Africa
15	1540	1600	Somerton, England	Argentina, Barbados
23	0935	1000	Brentwood, England	Austria, Belgian Congo, Brazil, Bulgaria, Canary Islands, Greece, India, Iran, Kenya, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Syria, Turkey, U.S.S.R., Yugoslavia
23	0935	0950	Somerton, England	Argentina, Australia, China, Egypt, Gold Coast, India, Japan, Nigeria, Union of South Africa
September 3	1100	1135	Brentwood, England	Austria, Brazil, Bulgaria, Canary Islands, Chile, Greece, Iran, Kenya, Madagascar, Palestine, Portugal, Southern Rhodesia, Spain, Switzerland, Uruguay, U.S.S.R., Zanzibar

Note - Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances, for publication as above. Address letters to Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Table 76

Provisional Radio Propagation Quality Figures
August 1946
Compared with CRPL Warnings and CRPL Probable Disturbed Period Forecasts.

Day	North Atlantic							North Pacific						
	Quality Figure		CRPL* Warning		CRPL Probable Disturbed Period Forecast	Geomagnetic K_A		Quality Figure		CRPL* Warning		CRPL Probable Disturbed Period Forecast	Geomagnetic K_A	
	01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT		01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT	01-12 GCT	13-24 GCT		01-12 GCT	13-24 GCT
1	5	5				1	1	5	7				1	1
2	5	5				1	1	6	6				1	1
3	5	5			X	1	1	6	7			X	1	1
4	5	5			X	1	1	7	8			X	1	1
5	7	6			X	1	1	7	(4)			X	1	1
6	6	6				1	2	5	(3)				1	2
7	5	(4)				2	3	7	8				2	3
8	6	6	X			1	2	5	5	X			1	2
9	6	6				1	1	6	6				1	1
10	7	6				0	2	6	6				0	2
11	5	5				3	3	5	6				3	3
12	5	5				2	2	5	6				2	2
13	5	6				2	1	7	6				2	1
14	(4)	(4)			X	3	3	(4)	5			X	3	3
15	(4)	5	X		X	3	3	5	5	X		X	3	3
16	(4)	5	X		X	3	3	5	(4)	X		X	3	3
17	(3)	(4)	X	X		3	3	(4)	6	X	X		3	3
18	6	6				1	1	6	6				1	1
19	6	6				1	1	6	6				1	1
20	7	6				1	1	8	8				1	1
21	6	6			X	1	0	8	8			X	1	0
22	6	7			X	1	0	7	6			X	1	0
23	6	7			X	0	0	8	(4)			X	0	0
24	6	7			X	2	1	7	8			X	2	1
25	6	7			X	2	1	8	8			X	2	1
26	7	7			X	1	1	8	8			X	1	1
27	7	6				1	1	8	6				1	1
28	7	7				1	1	7	8				1	1
29	6	7				0	0	7	8				0	0
30	7	6				0	2	7	8				0	2
31	(4)	6				4	3	6	8				4	3
Score:														
H			3		3					1		4		
M			3		3					5		2		
G			24		16					23		17		
(S)			0		2					2		1		
S			1		7					0		7		

*Broadcast on WWV, Washington, D.C. Times of warnings recorded to nearest half-day as broadcast.

Quality Figure Scale:
1 = Useless
2 = Very poor
3 = Poor
4 = Poor to fair
5 = Fair
6 = Fair to good
7 = Good
8 = Very good
9 = Excellent

Symbols
X Warning given or probable disturbed date.

H Quality 4 or worse on day or half day of warning.

M Quality 4 or worse on day or half day of no warning.

G Quality 5 or better on day of no warning.

(S) Quality 5 on day of warning.

S Quality 6 or better on day of warning.

( ) Quality 4 or worse (disturbed).

Geomagnetic K_A on the standard scale of 0 to 9, 9 representing the greatest disturbance.

Table 77

Daily Median Values of American Relative Sunspot Numbers*

September 1946

Date	No.	Date	No.
1	136	16	112
2	140	17	110
3	134	18	119
4	102	19	110
5	76	20	92
6	67	21	99
7	57	22	122
8	50	23	116
9	50	24	133
10	48	25	148
11	63	26	146
12	79	27	162
13	94	28	132
14	98	29	134
15	104	30	85

No. Days 30 Mean 103.9

* Median of data from 13 observers.

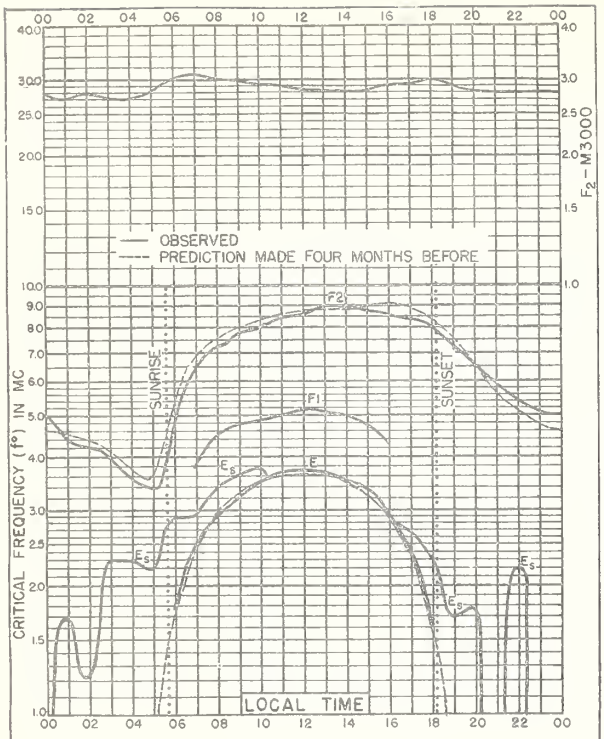


Fig. 1. WASHINGTON, D.C.
39.0°N, 77.5°W SEPTEMBER 1946

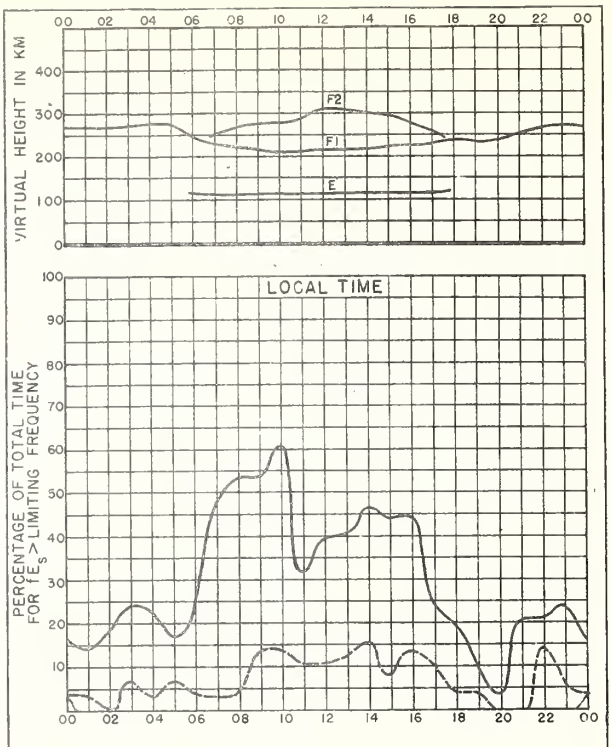


Fig. 2. WASHINGTON, D.C. SEPTEMBER 1946

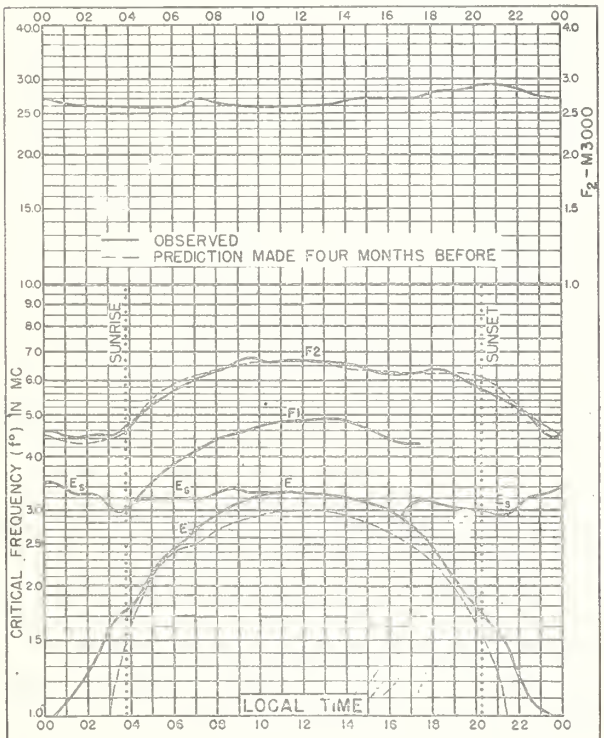


Fig. 3. FAIRBANKS, ALASKA
64.9°N, 147.8°W AUGUST 1946

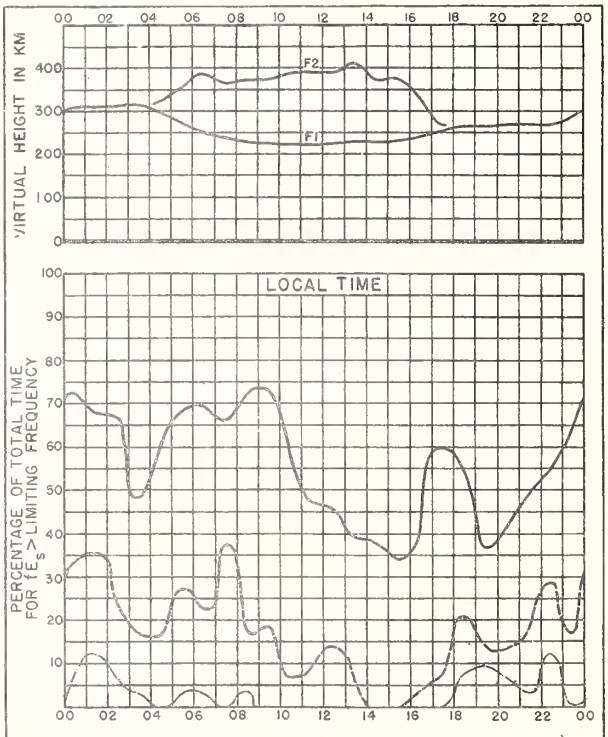


Fig. 4. FAIRBANKS, ALASKA AUGUST 1946

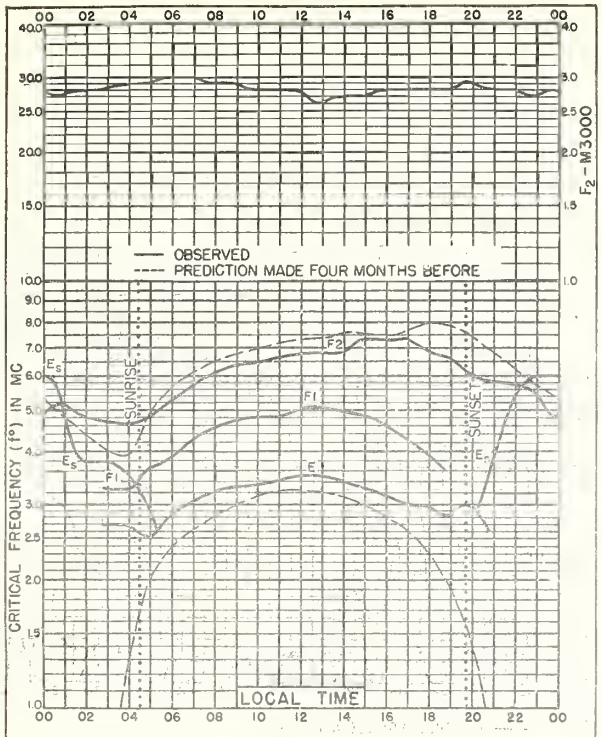


Fig. 5 CHURCHILL, CANADA
58.8°N, 94.2°W AUGUST 1946

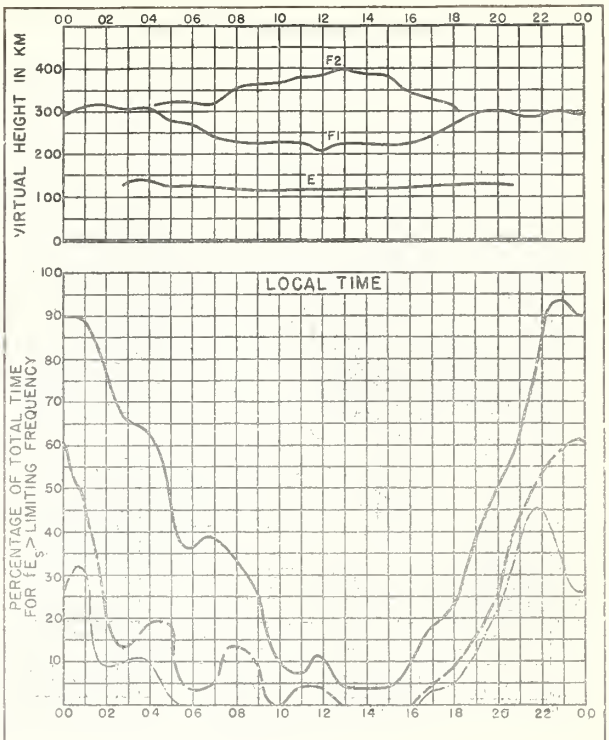


Fig. 6 CHURCHILL, CANADA AUGUST 1946

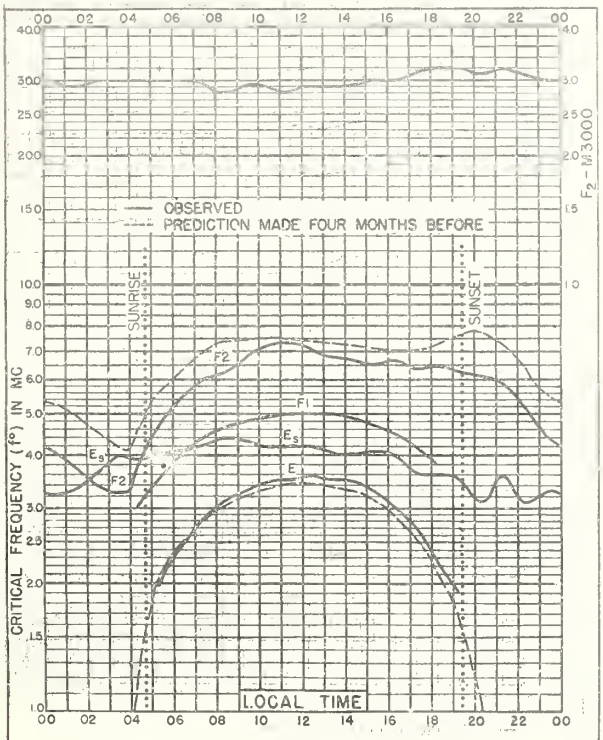


Fig. 7. PRINCE RUPERT, CANADA
54.3°N, 130.3°W AUGUST 1946

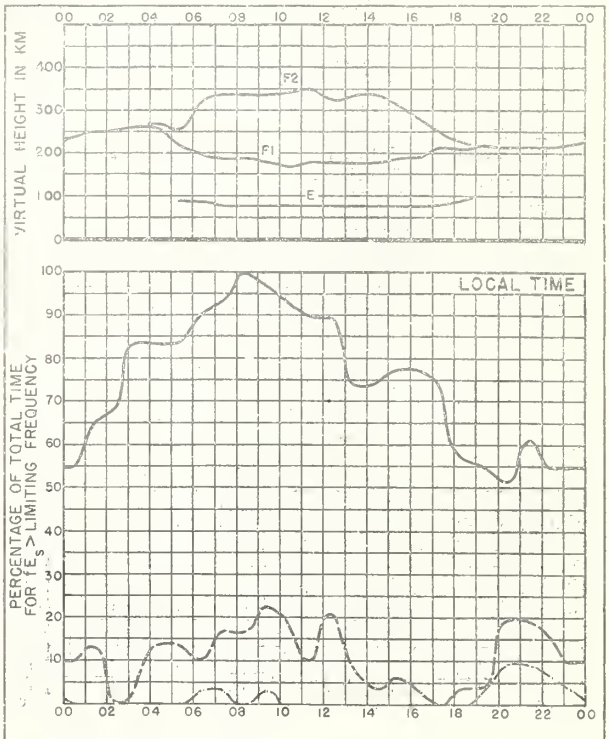


Fig. 8. PRINCE RUPERT, CANADA AUGUST 1946

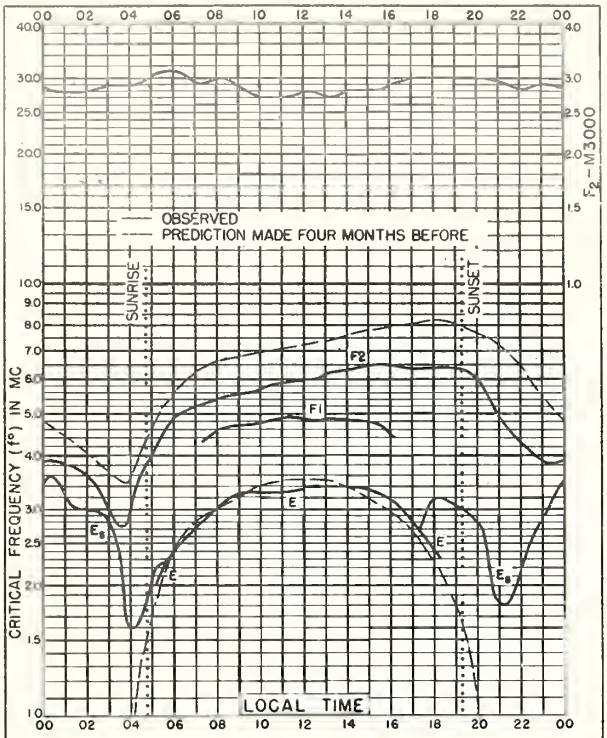


Fig. 9. SWAN RIVER, MANITOBA
52.1°N, 101.2°W AUGUST 1946

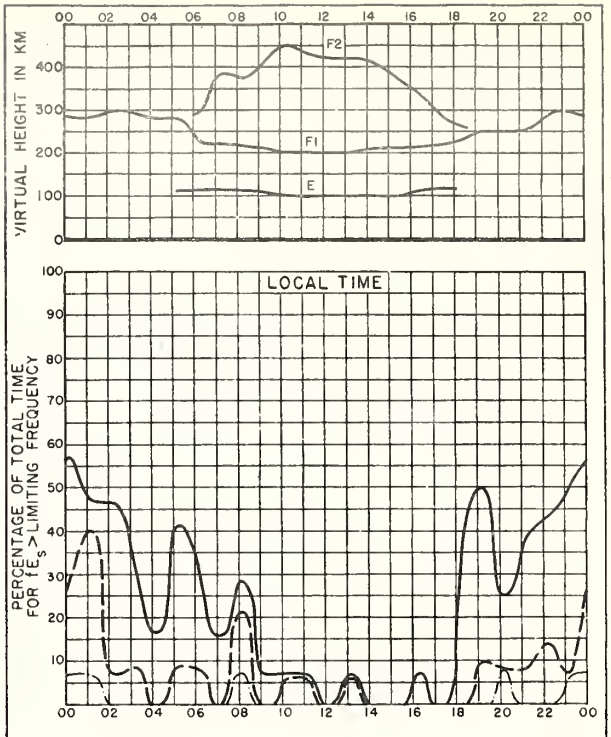


Fig. 10. SWAN RIVER, MANITOBA AUGUST 1946

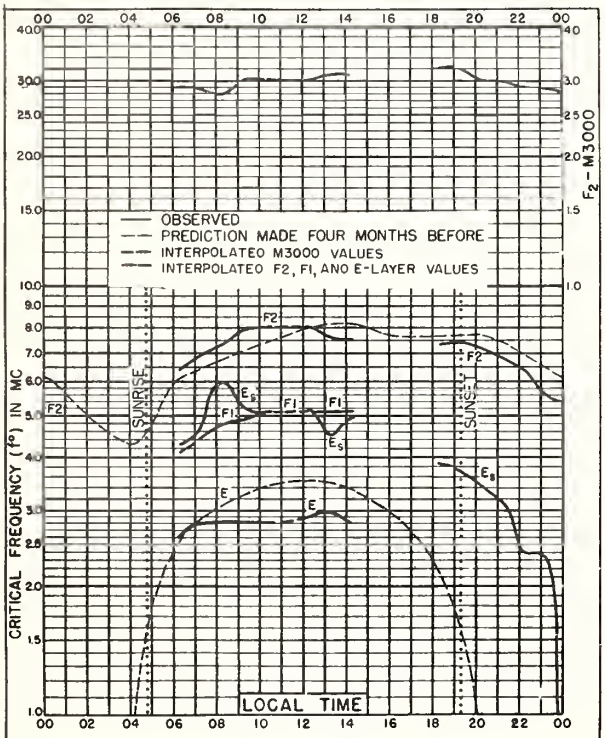


Fig. 11. ADAK, ALASKA
51.9°N, 176.6°W AUGUST 1946

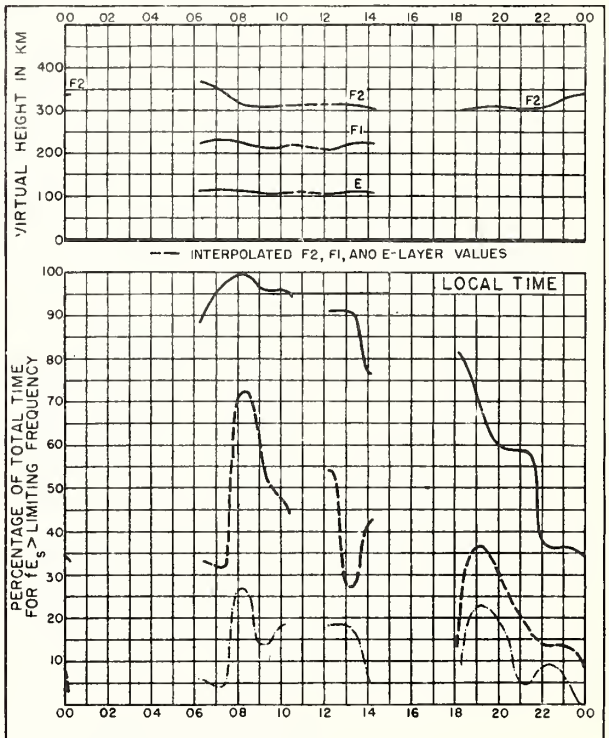


Fig. 12. ADAK, ALASKA AUGUST 1946

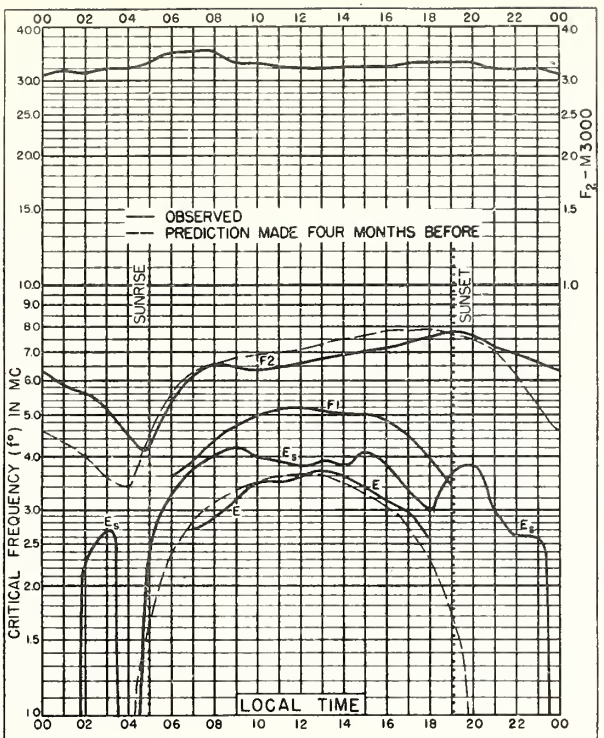


Fig. 13. ST. JOHN'S, NEWFOUNDLAND
476°N, 52.7°W AUGUST 1946

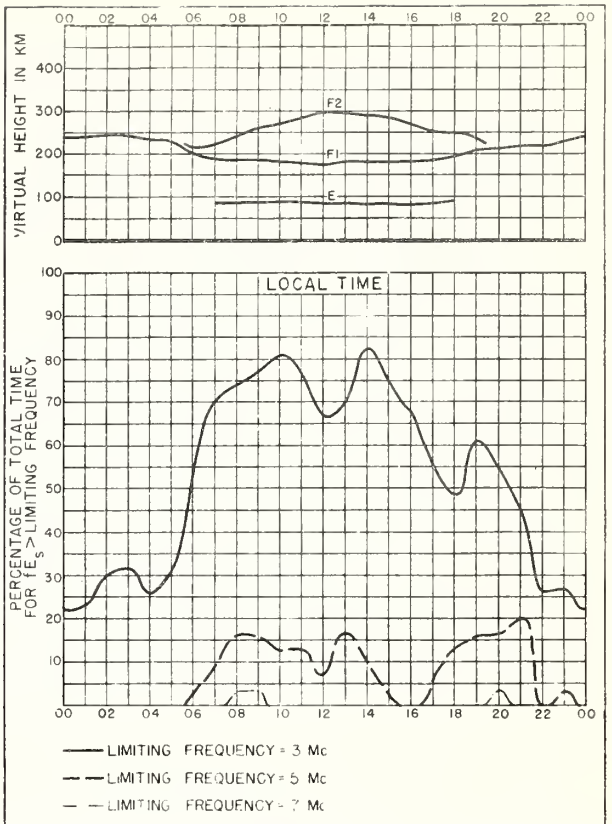


Fig. 14. ST. JOHN'S, NEWFOUNDLAND AUGUST 1946

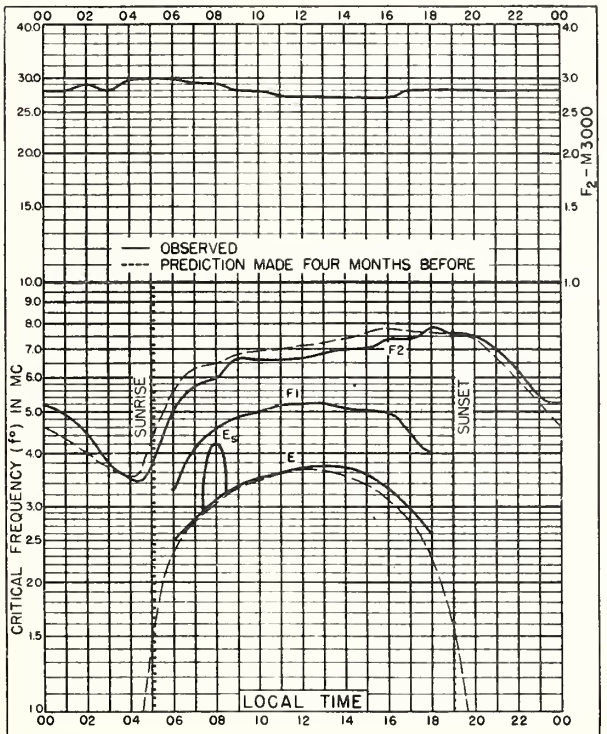


Fig. 15 OTTAWA, CANADA
45.5°N, 75.8°W AUGUST 1946

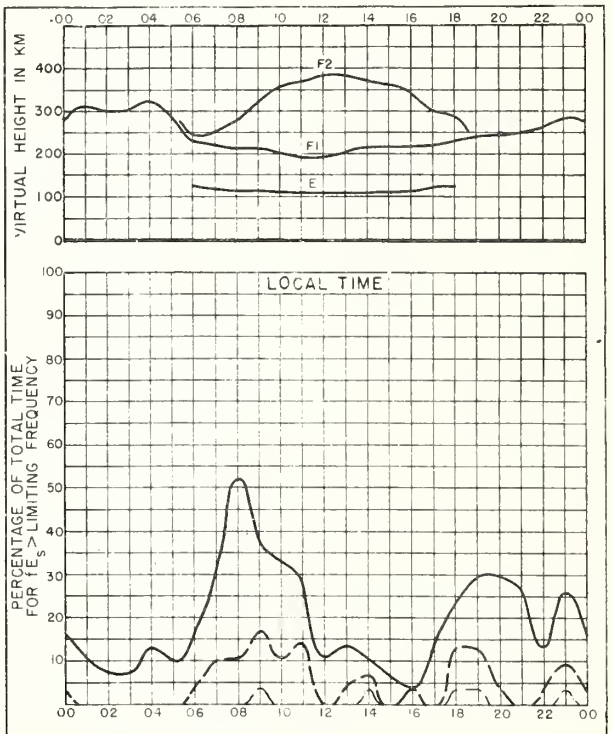


Fig. 16 OTTAWA, CANADA AUGUST 1946

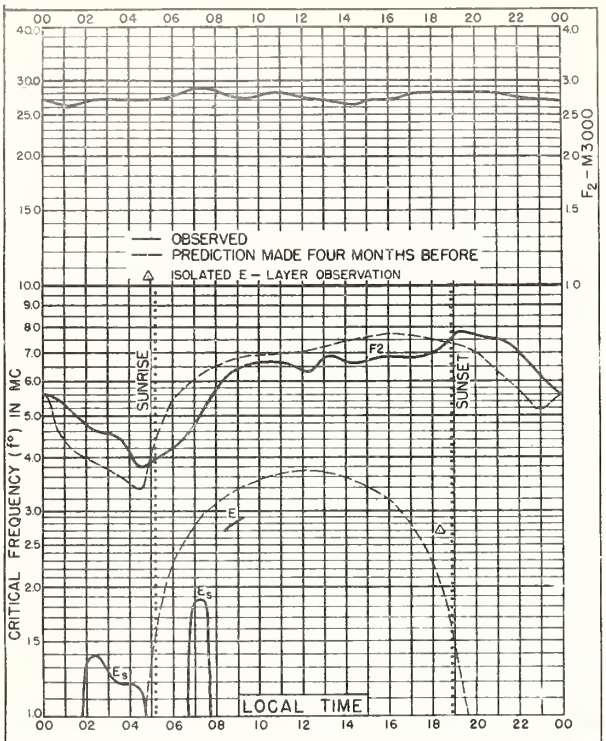


Fig.17 BOSTON, MASSACHUSETTS
42.4°N, 71.2°W AUGUST 1946

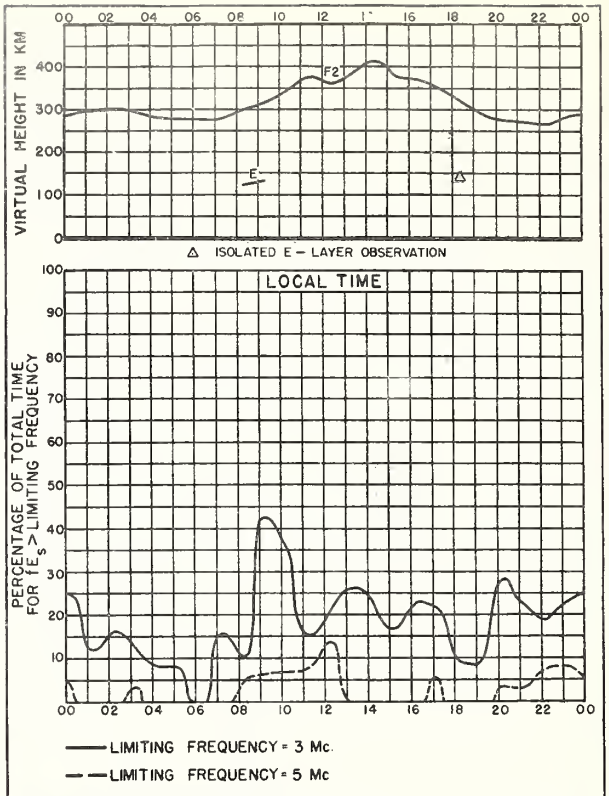


Fig 18 BOSTON, MASSACHUSETTS AUGUST 1946

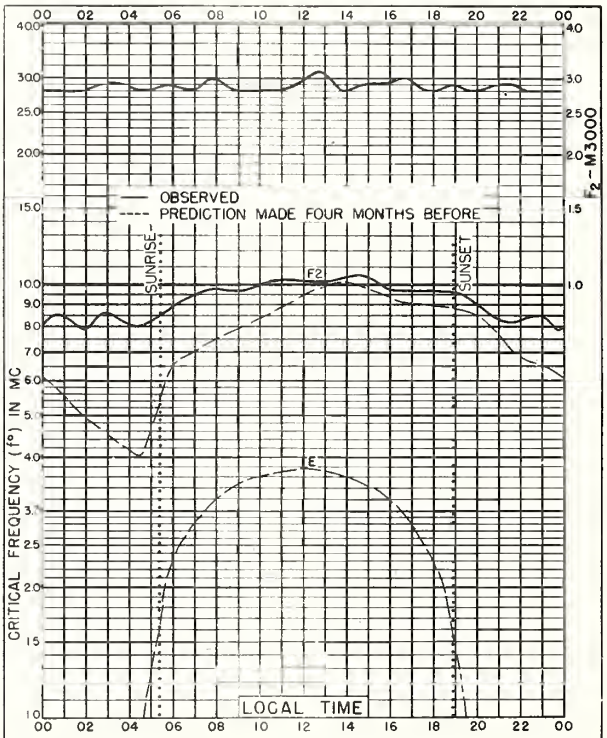


Fig. 19. PEIPING, CHINA
39.9°N, 116.4°E AUGUST 1946

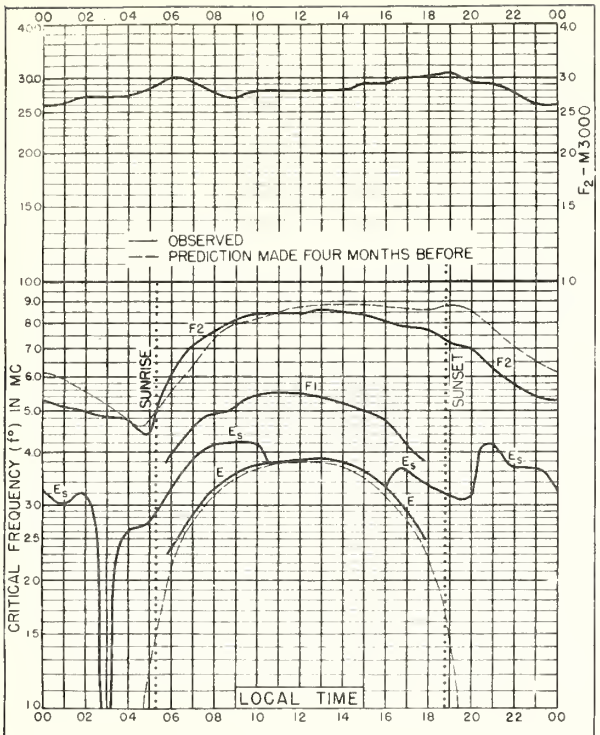


Fig. 20 SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W AUGUST 1946

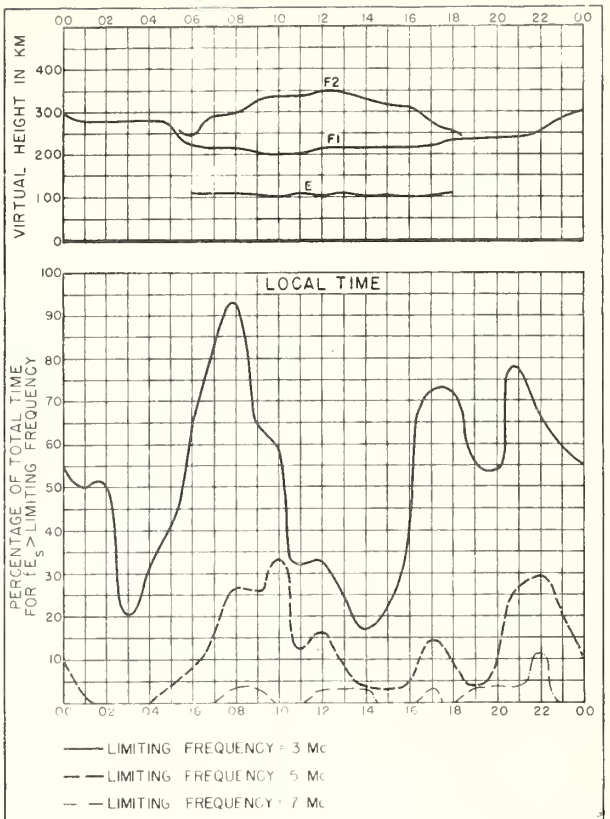


Fig. 21 SAN FRANCISCO, CALIFORNIA AUGUST 1946

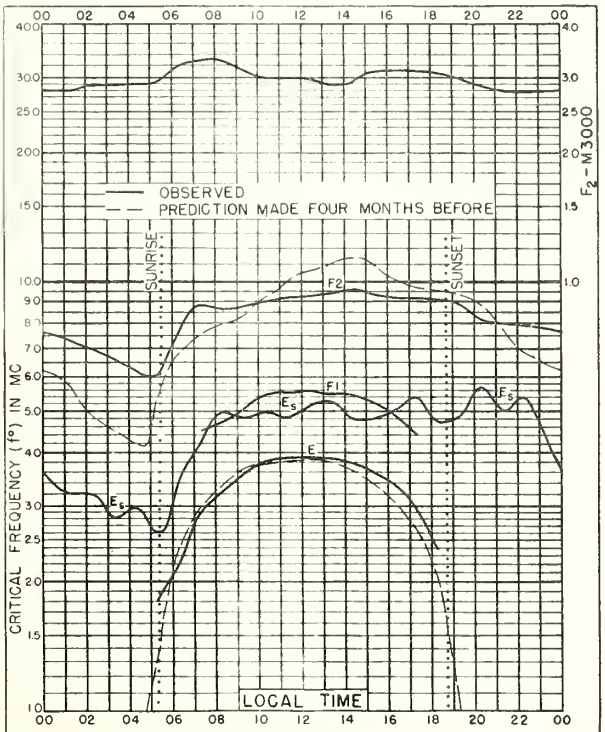


Fig. 22. TOKYO, JAPAN
35.6°N, 139.6°E AUGUST 1946

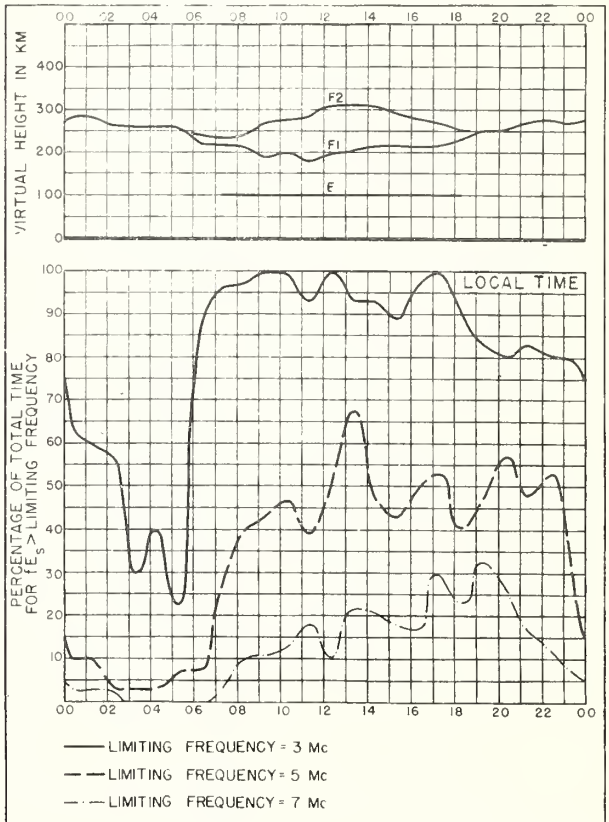


Fig. 23. TOKYO, JAPAN AUGUST 1946

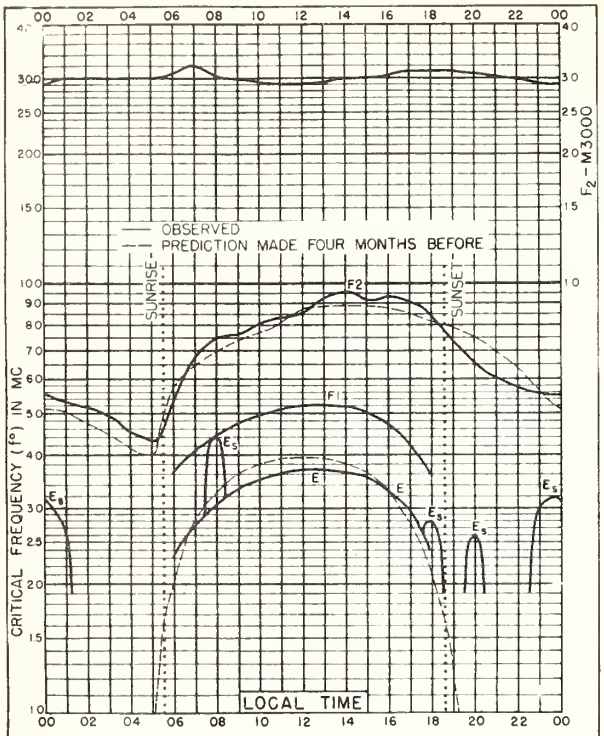


Fig 24 BATON ROUGE, LOUISIANA
30.5°N, 91.2°W AUGUST 1946

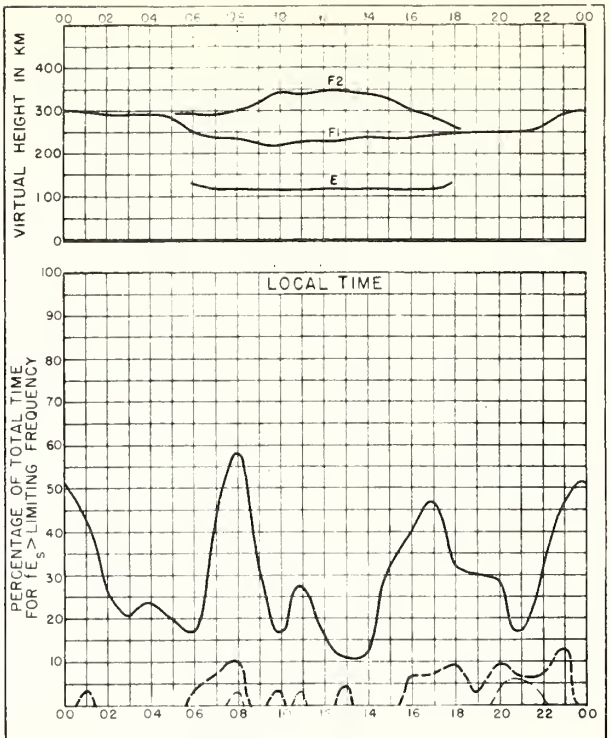


Fig 25. BATON ROUGE, LOUISIANA AUGUST 1946

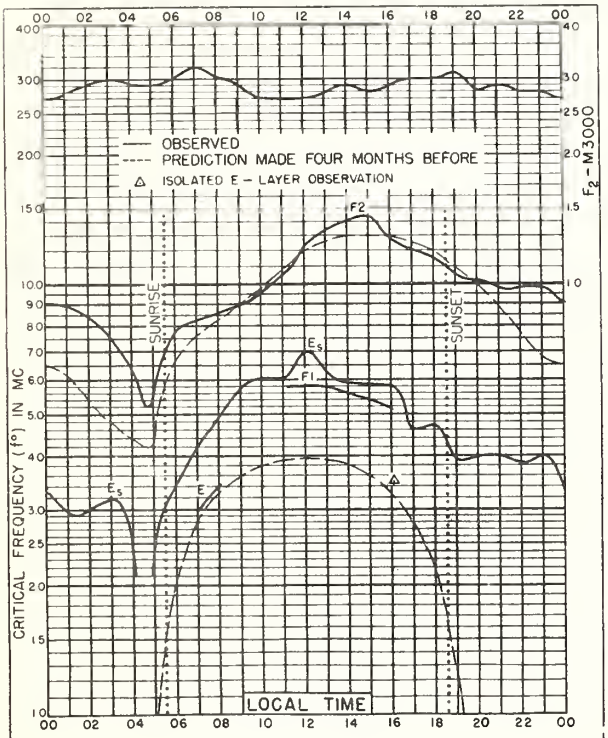


Fig. 26. CHUNGKING, CHINA
29.4°N, 106.8°E AUGUST 1946

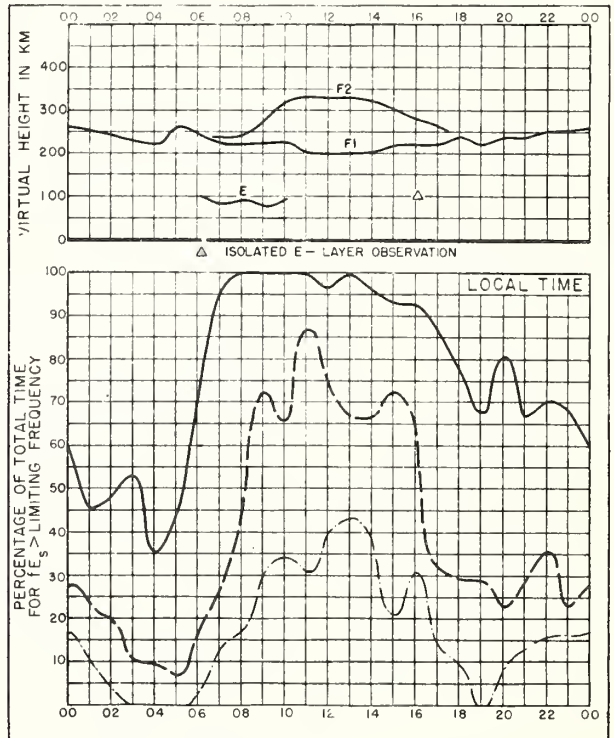


Fig 27. CHUNGKING, CHINA AUGUST 1946

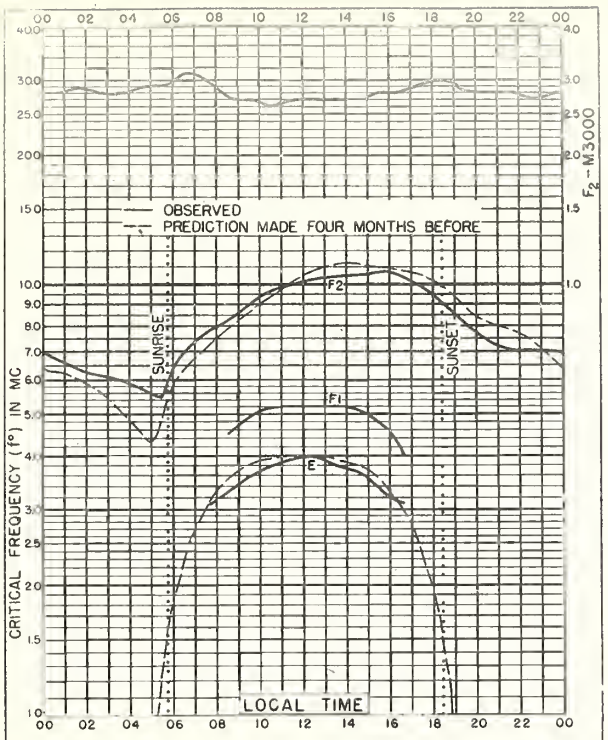


Fig. 28. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W AUGUST 1946

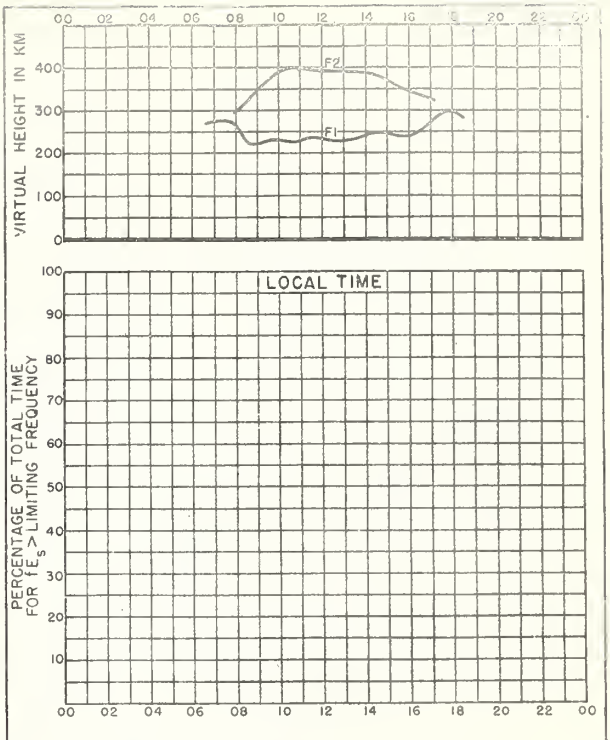


Fig. 29. SAN JUAN, PUERTO RICO AUGUST 1946

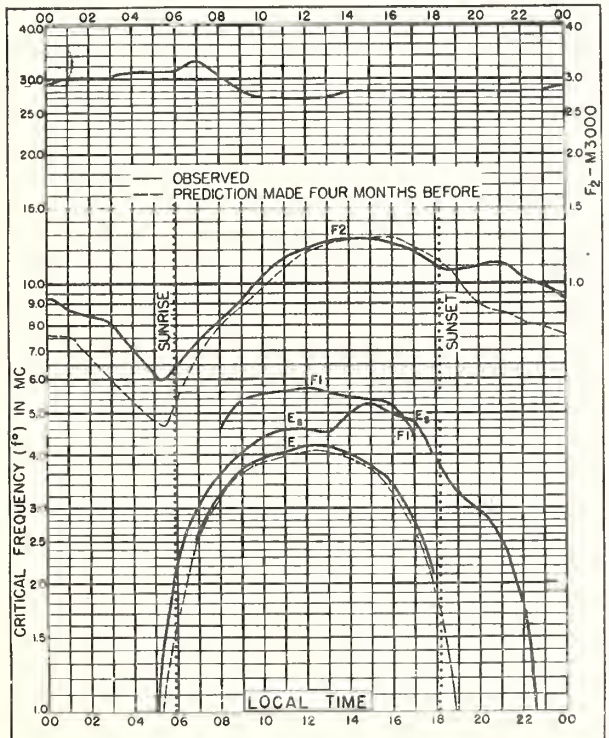


Fig. 30. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.2°W AUGUST 1946

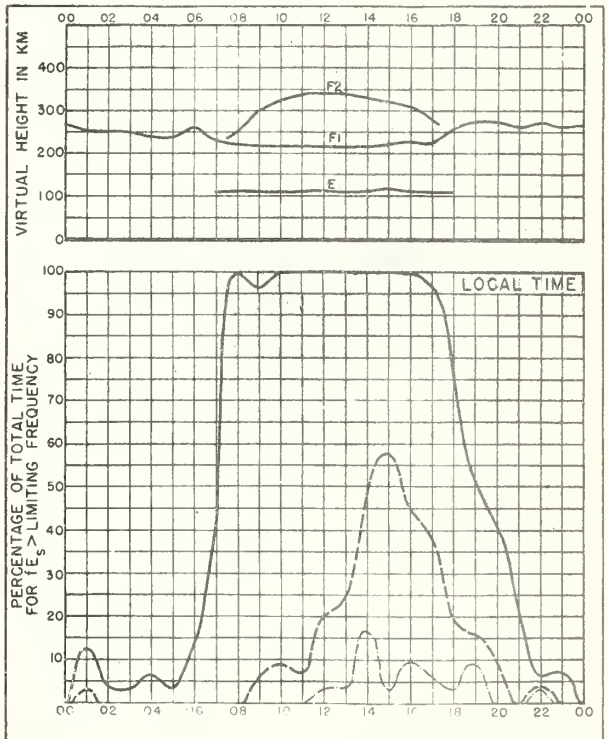


Fig. 31. TRINIDAD, BRIT. WEST INDIES AUGUST 1946

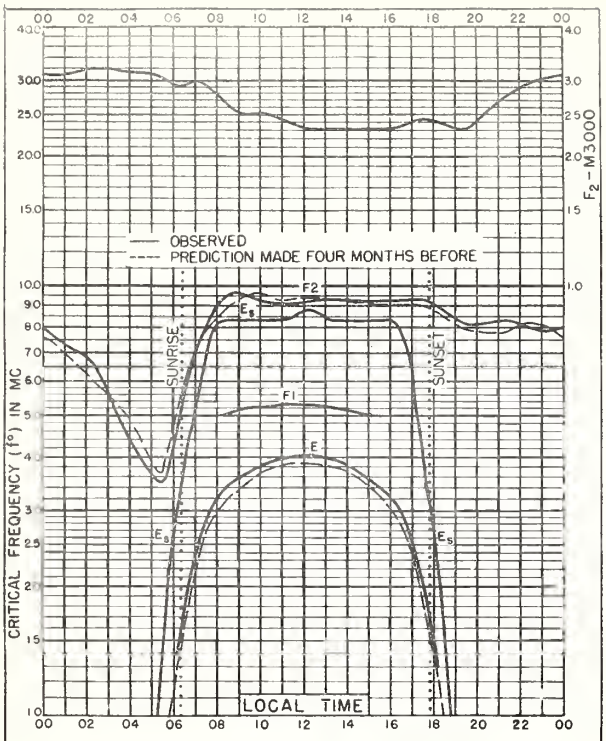


Fig. 32. HUANCAYO, PERU
12.0°S, 75.3°W AUGUST 1946

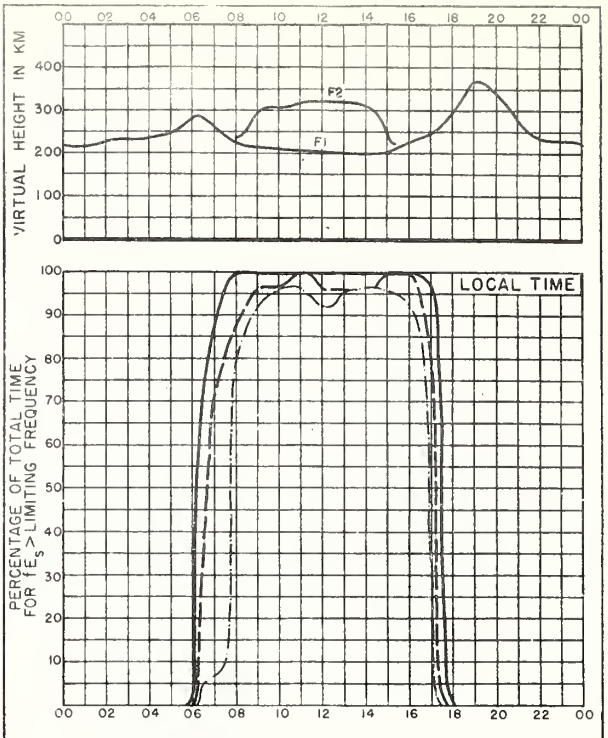


Fig 33. HUANCAYO, PERU AUGUST 1946

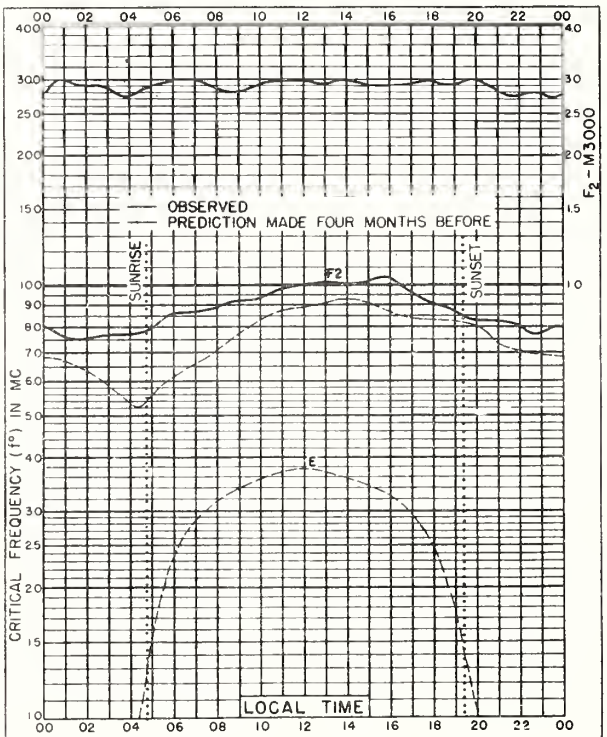


Fig 34. PEIPING, CHINA
39 9°N, 116 4°E JULY 1946

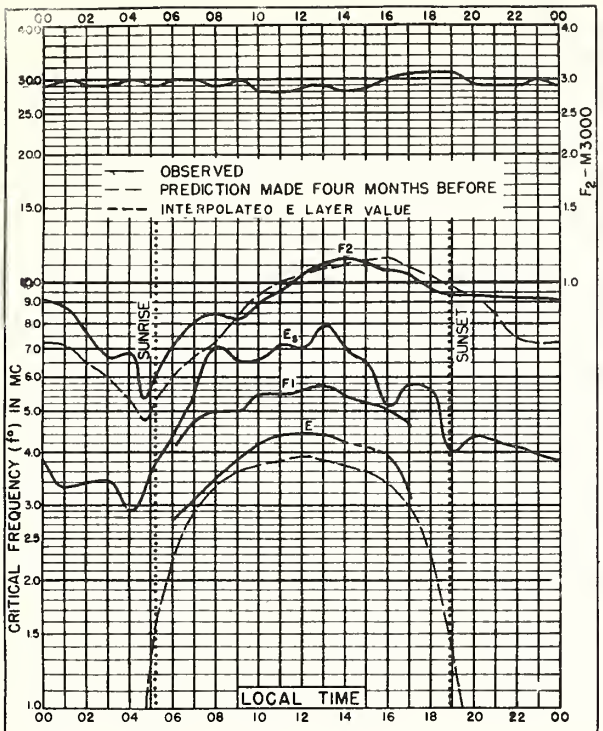


Fig. 35 CHUNGKING, CHINA
29.4°N, 106.8°E JULY 1946

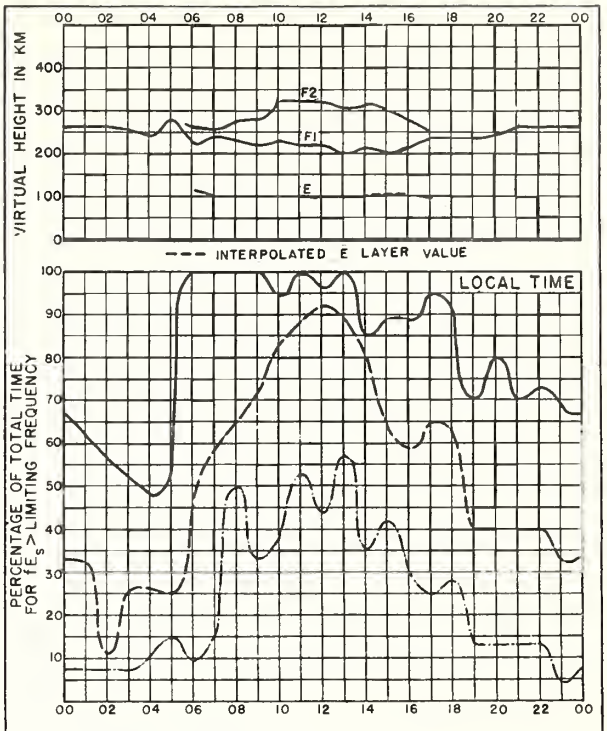


Fig. 36 CHUNGKING, CHINA JULY 1946

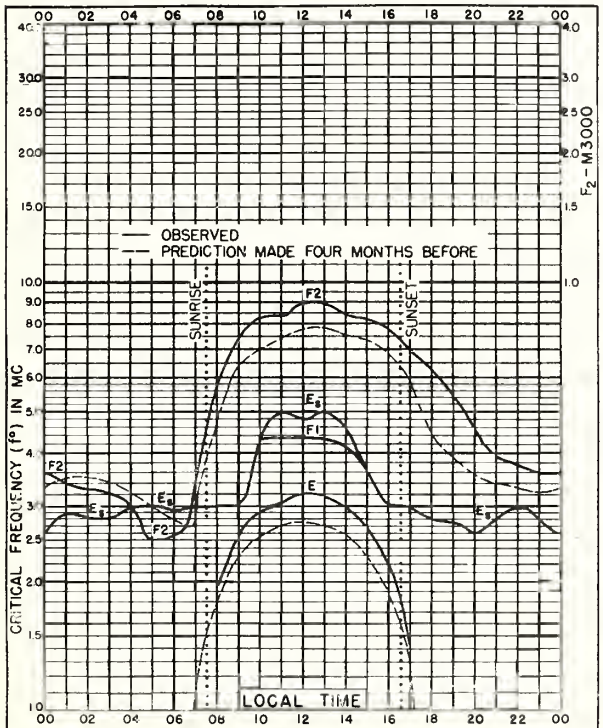


Fig. 37 CHRISTCHURCH, N.Z.
43.5°S, 172.6°E JULY 1946

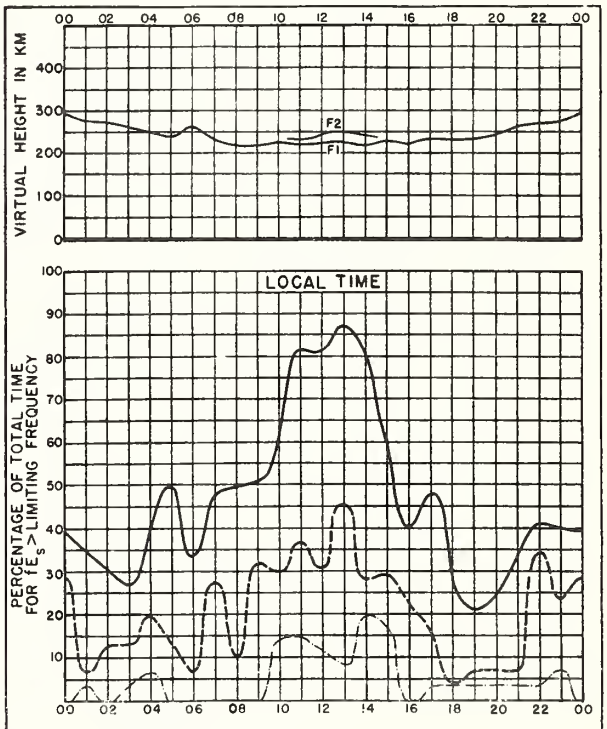


Fig. 38 CHRISTCHURCH, N.Z. JULY 1946

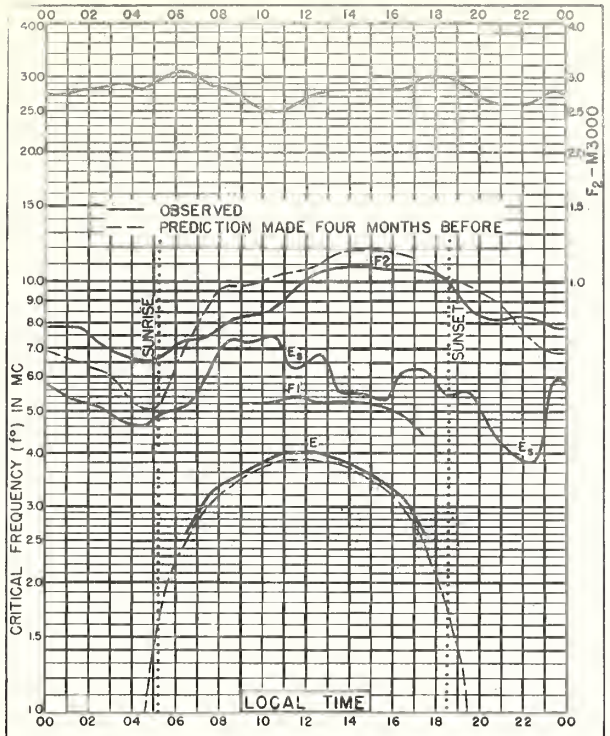


Fig. 42. OKINAWA I.
26.3°N, 127.8°E JUNE 1946

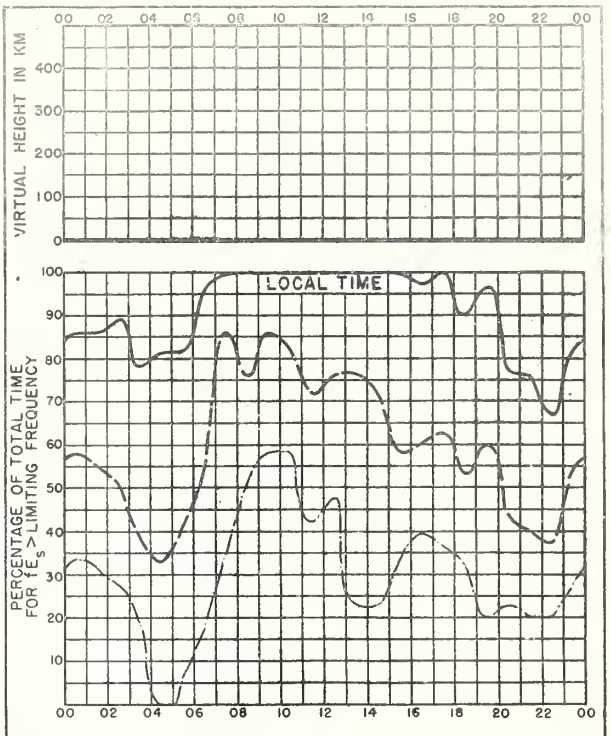


Fig. 43. OKINAWA I. JUNE 1946

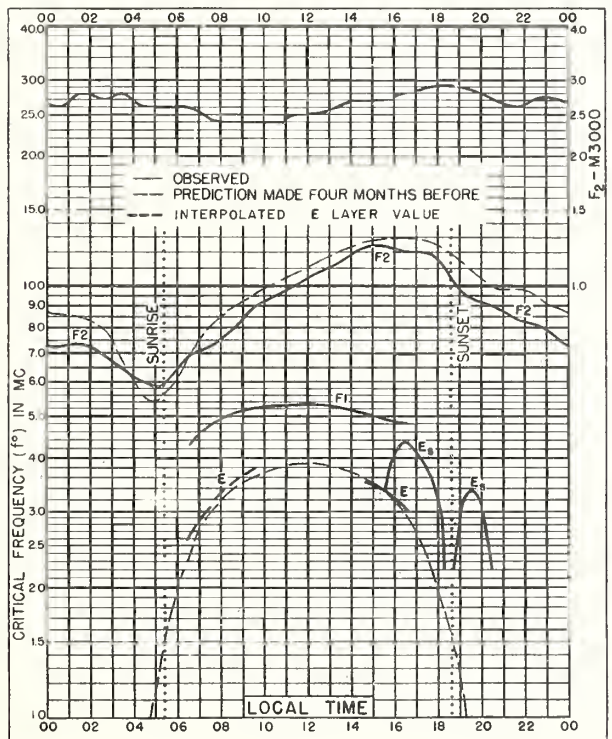


Fig. 44. MAUI, HAWAII
20.8°N, 156.5°W JUNE 1946

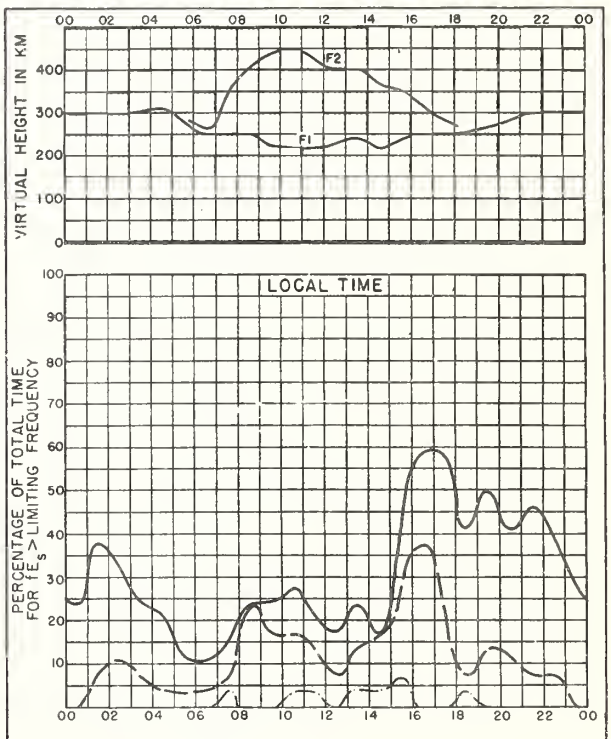


Fig. 45. MAUI, HAWAII JUNE 1946

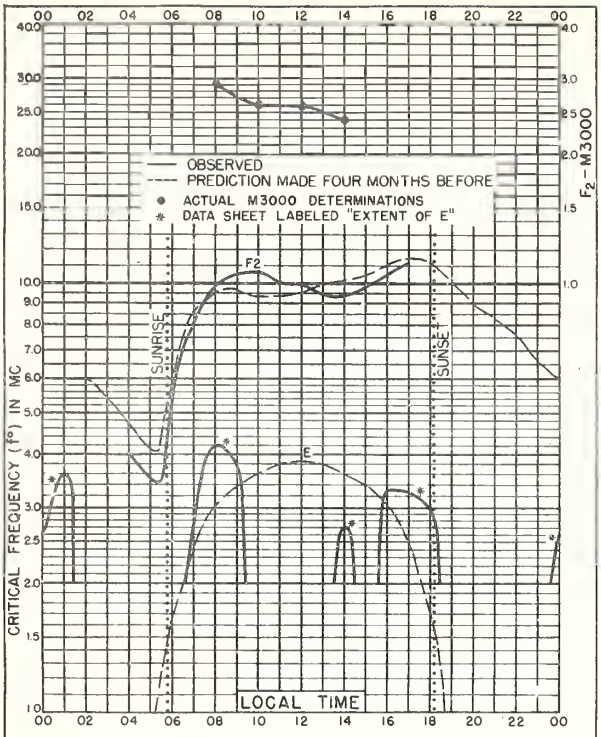


Fig. 46 COLOMBO, CEYLON
6.6°N, 80.0°E JUNE 1946

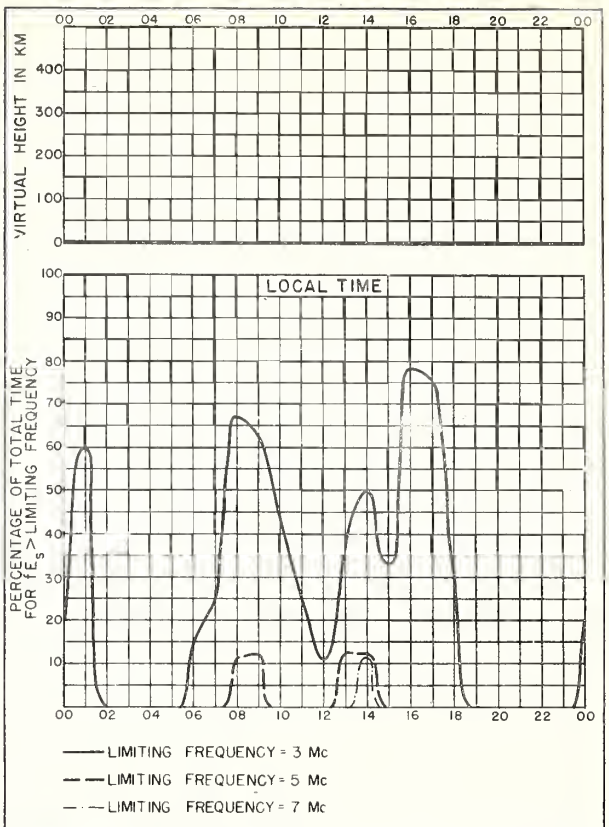


Fig. 47 COLOMBO, CEYLON JUNE 1946

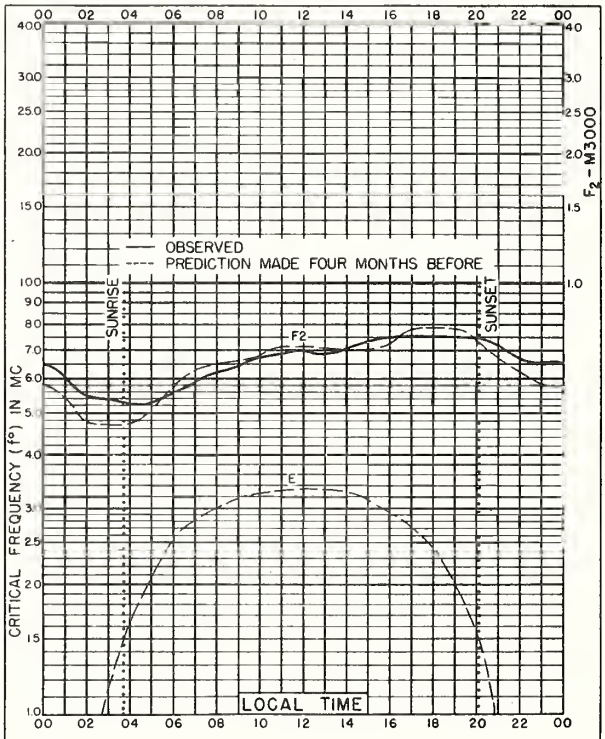


Fig. 48. BURGHEAD, SCOTLAND
57.7°N, 3.5°W MAY 1946

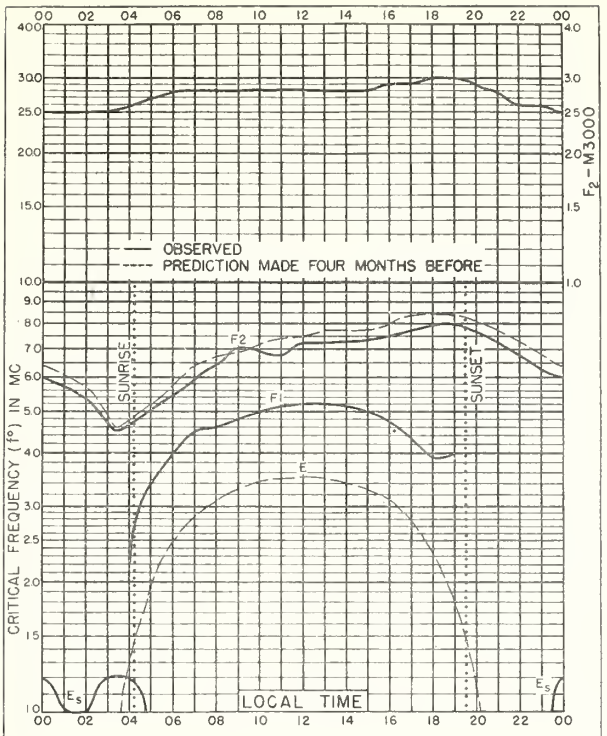


Fig. 49. SLOUGH, ENGLAND
51.5°N, 0.6°W MAY 1946

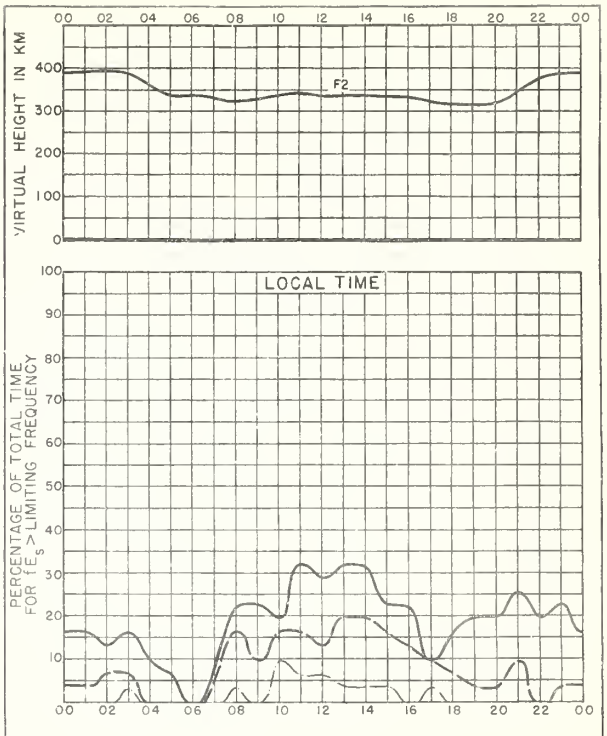


Fig. 50. SLOUGH, ENGLAND MAY 1946

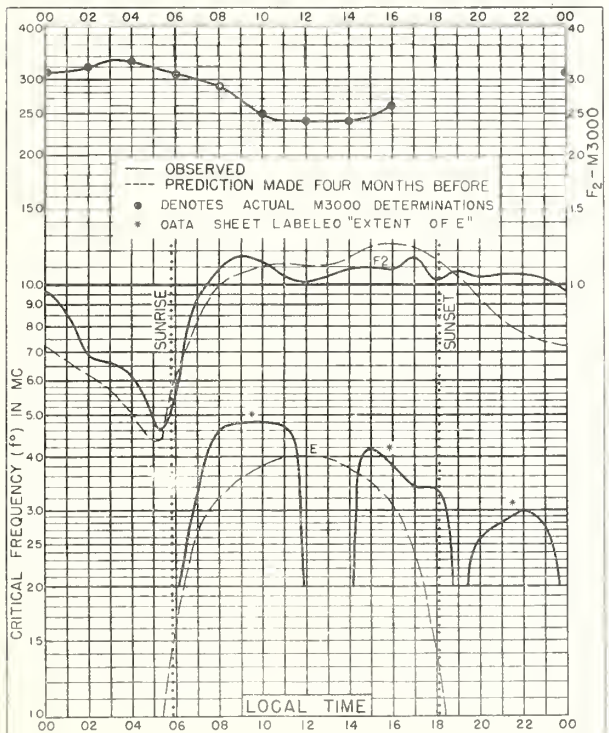


Fig. 51. COLOMBO, CEYLON
6.6°N, 80.0°E MAY 1946

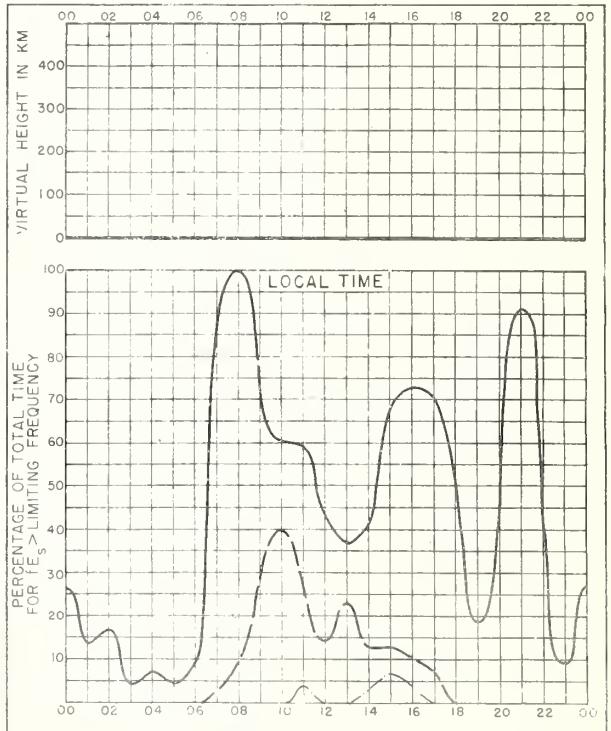


Fig. 52. COLOMBO, CEYLON MAY 1946

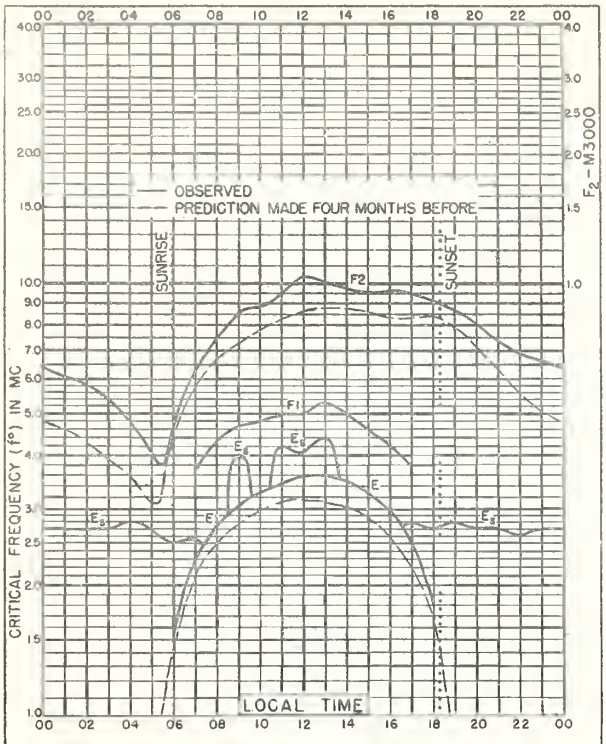


Fig. 53 CHRISTCHURCH, N. Z.
43.5°S, 172.6°E MARCH 1946

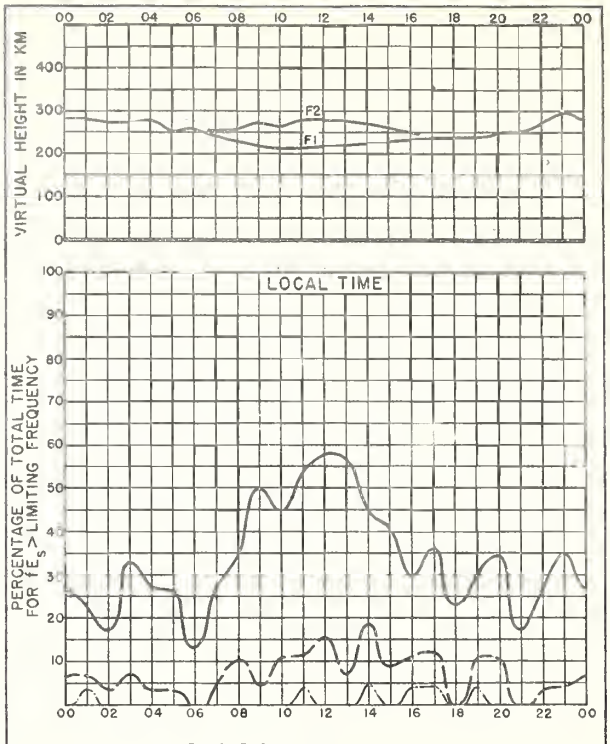


Fig. 54 CHRISTCHURCH, N. Z. MARCH 1946

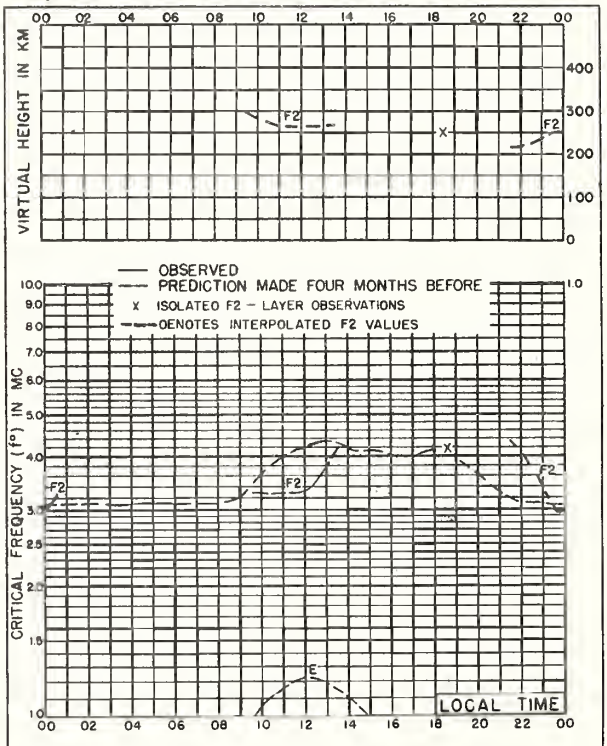


Fig. 55. BUKHTA TIKHAYA, U. S. S. R.
80.3°N, 52.7°E JANUARY 1946

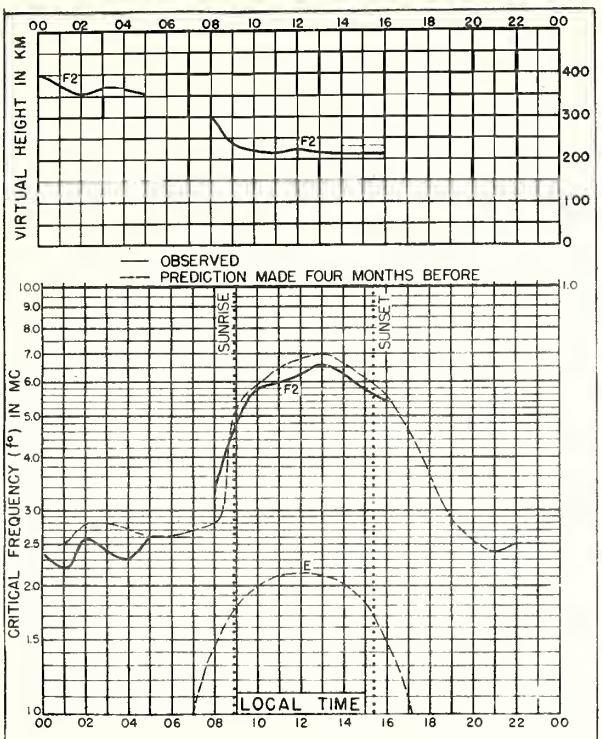


Fig. 56. LENINGRAD (WETKAS,) U. S. S. R.
60.0°N, 30.3°E JANUARY 1946

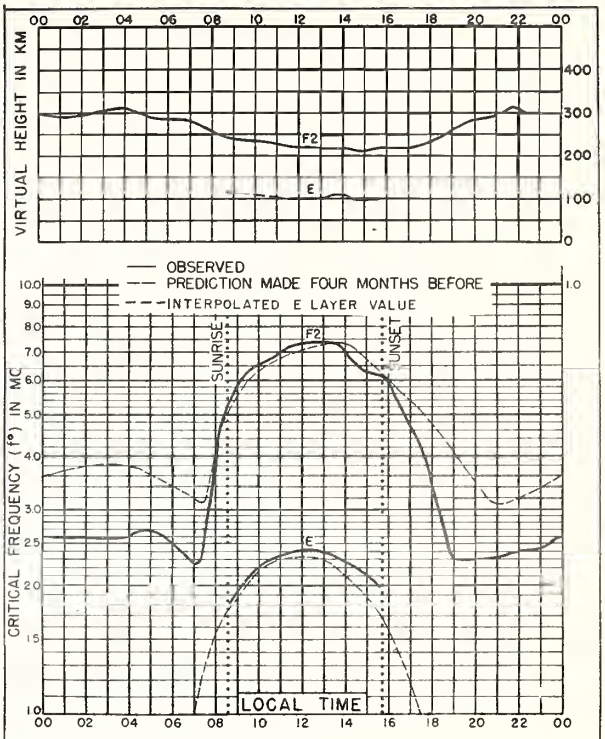


Fig. 57. TOMSK, U. S. S. R.
56.5°N, 84.9°E JANUARY 1946

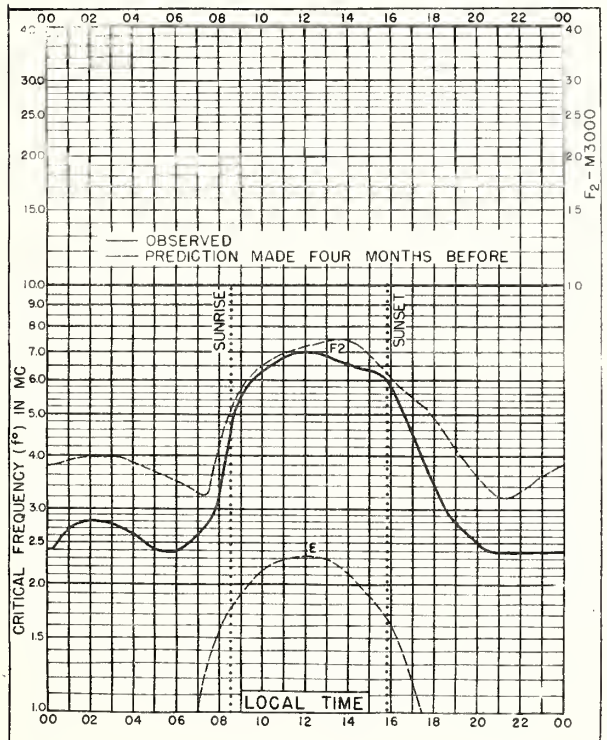


Fig. 58. MOSCOW, U S S R.
55.9°N, 37.7°E JANUARY 1946

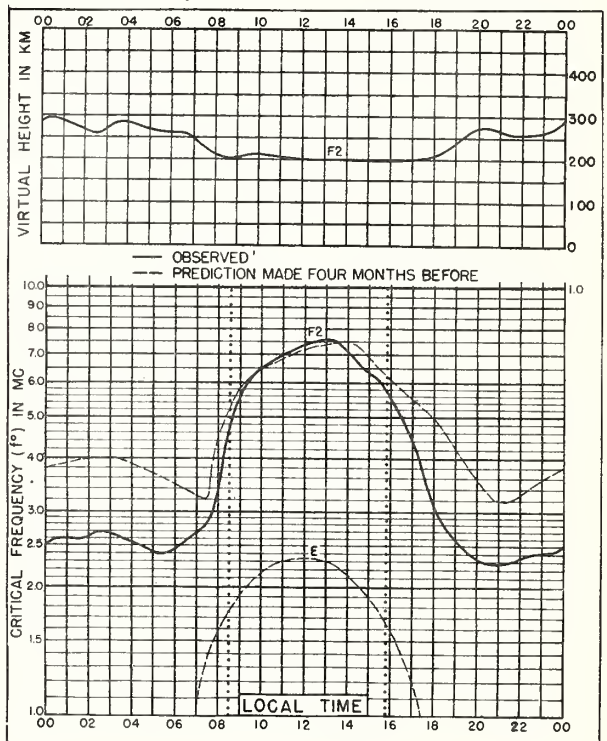


Fig. 59. MOSCOW (KRASNAJA PAKHRA), U. S. S. R.
55.5°N, 37.3°E JANUARY 1946

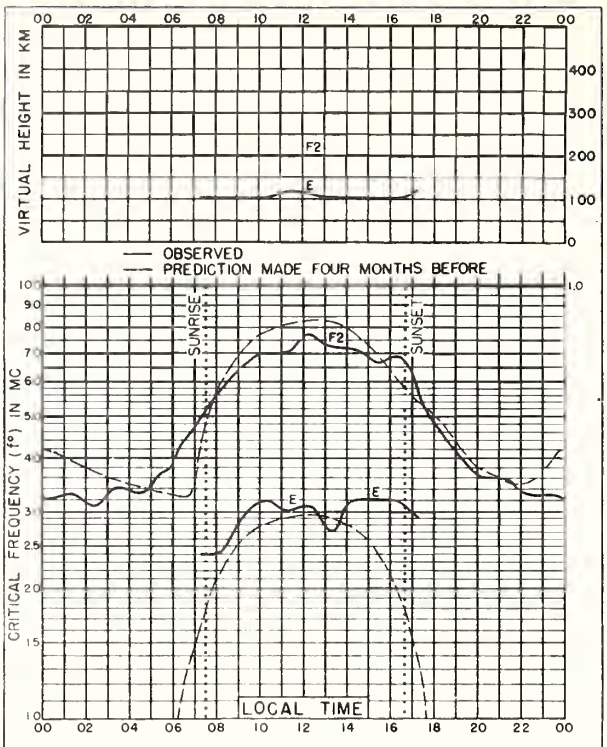


Fig. 60 ALMA ATA, U.S.S.R.
43.2°N, 76.9°E JANUARY 1946

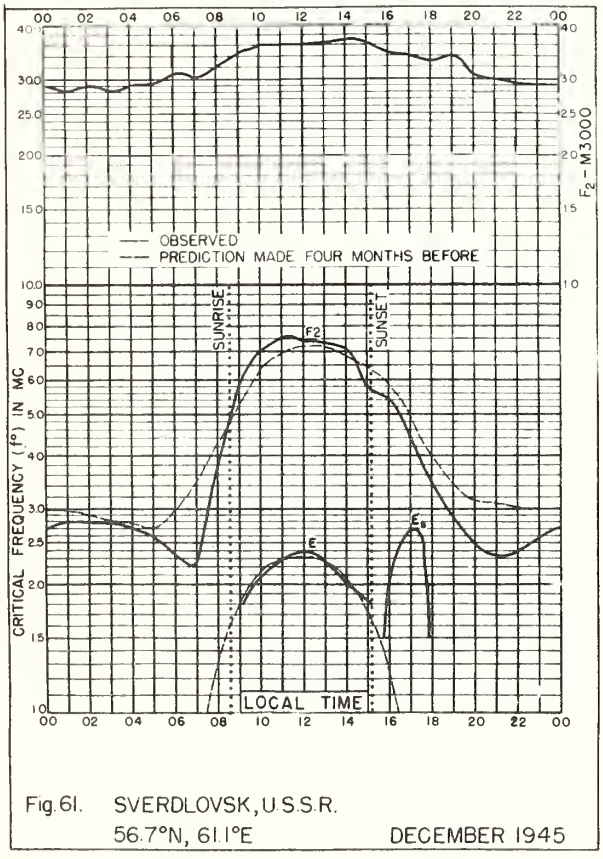


Fig. 61. SVERDLOVSK, U.S.S.R.
56.7°N, 61.1°E DECEMBER 1945

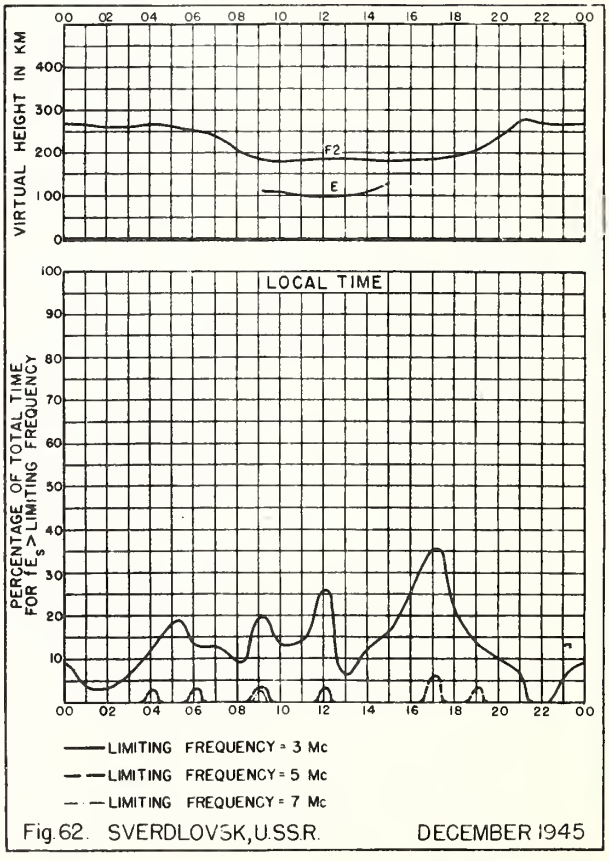


Fig. 62. SVERDLOVSK, U.S.S.R. DECEMBER 1945

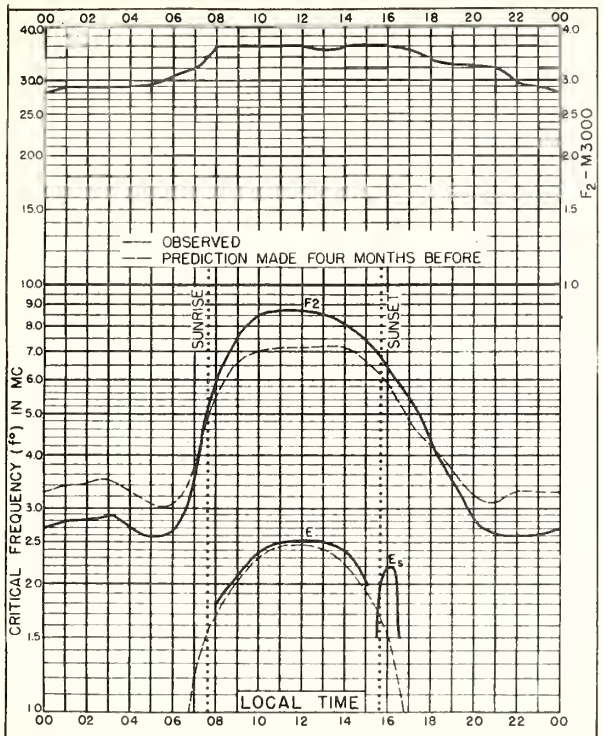


Fig.63. SVERDLOVSK, U.S.S.R
56.7°N, 61.1°E NOVEMBER 1945

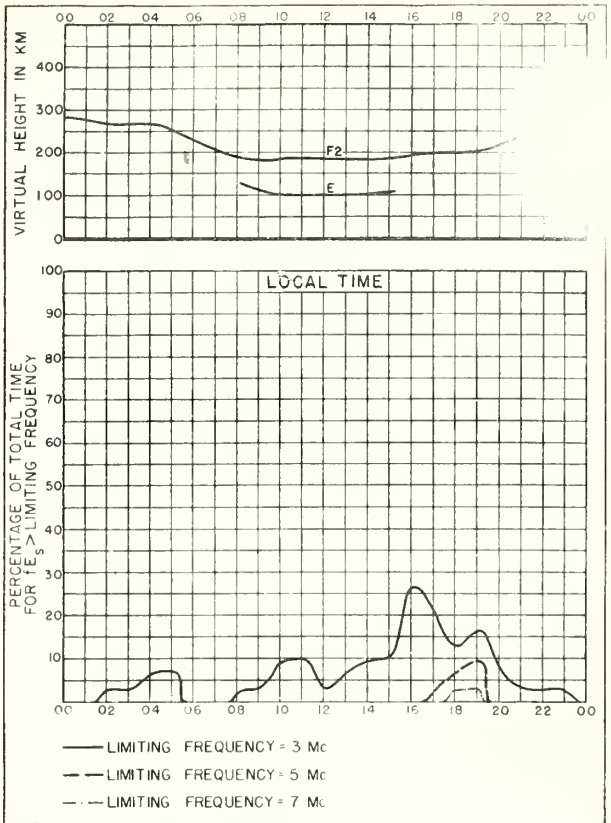


Fig.64. SVERDLOVSK, U.S.S.R NOVEMBER 1945

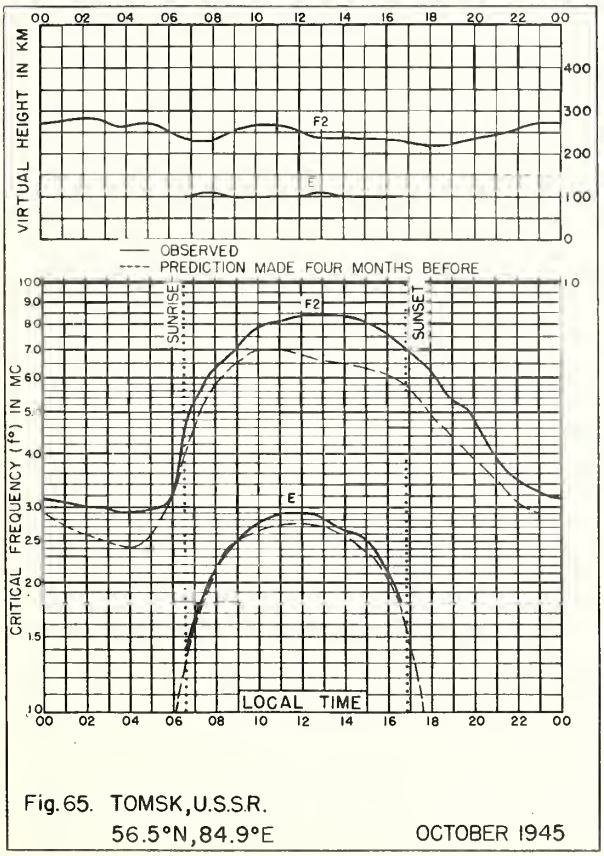


Fig.65. TOMSK, U.S.S.R.
56.5°N, 84.9°E OCTOBER 1945

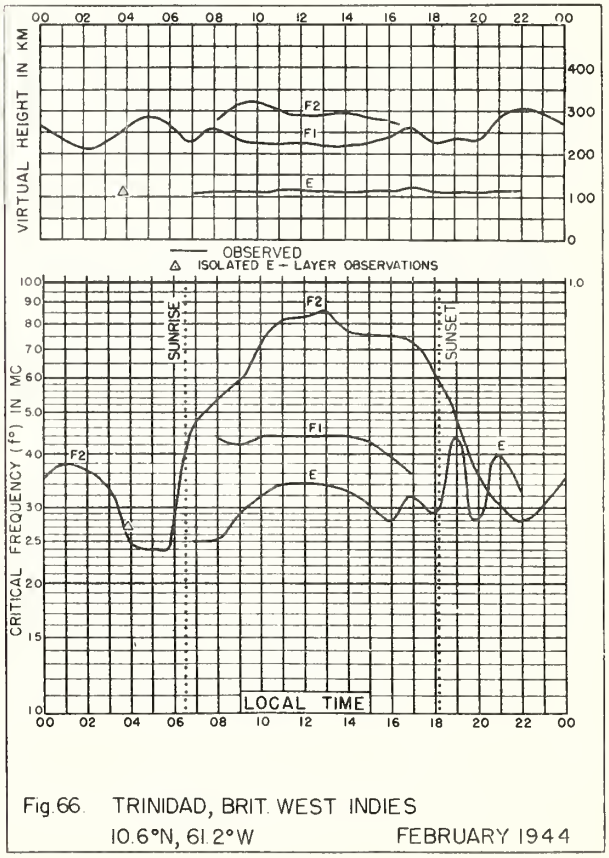


Fig.66. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.2°W FEBRUARY 1944

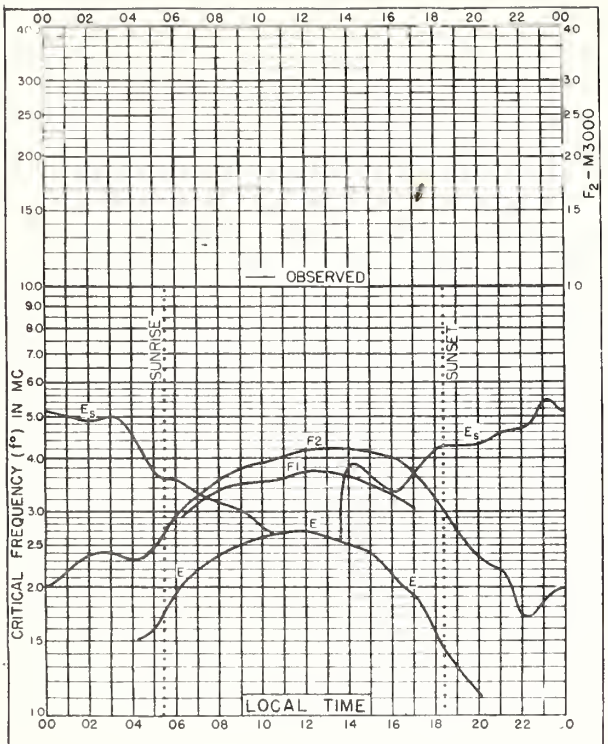


Fig 67. FAIRBANKS, ALASKA
649°N, 1478°W SEPTEMBER 1943

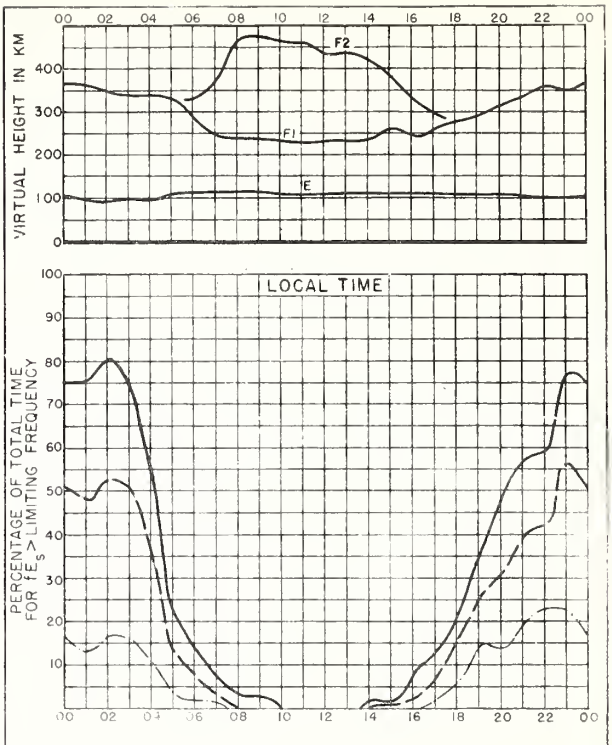


Fig 68. FAIRBANKS, ALASKA SEPTEMBER 1943

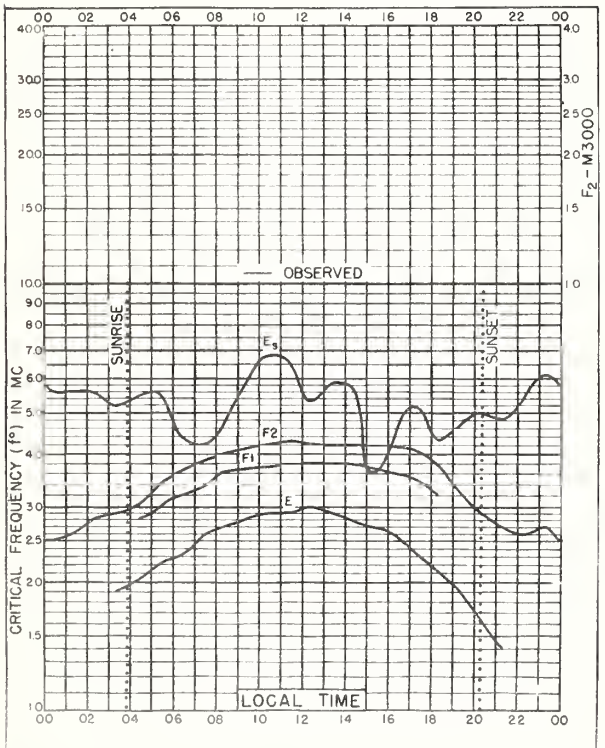


Fig 69. FAIRBANKS, ALASKA

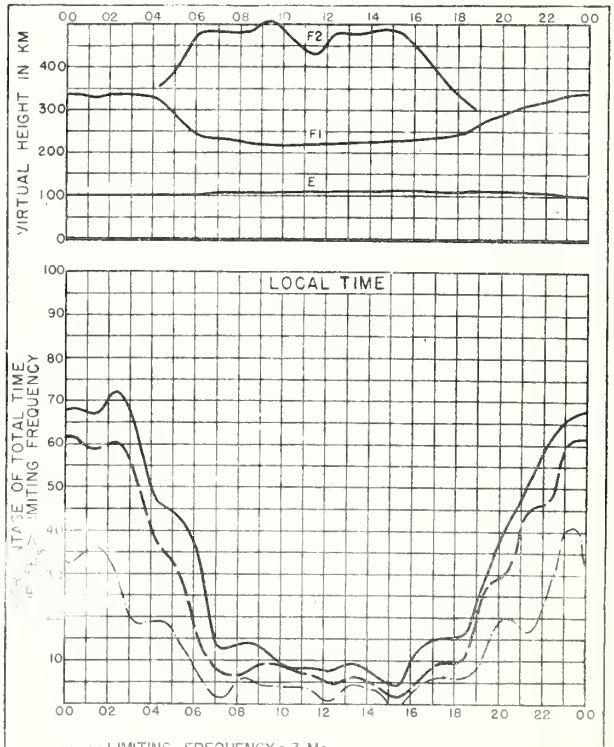
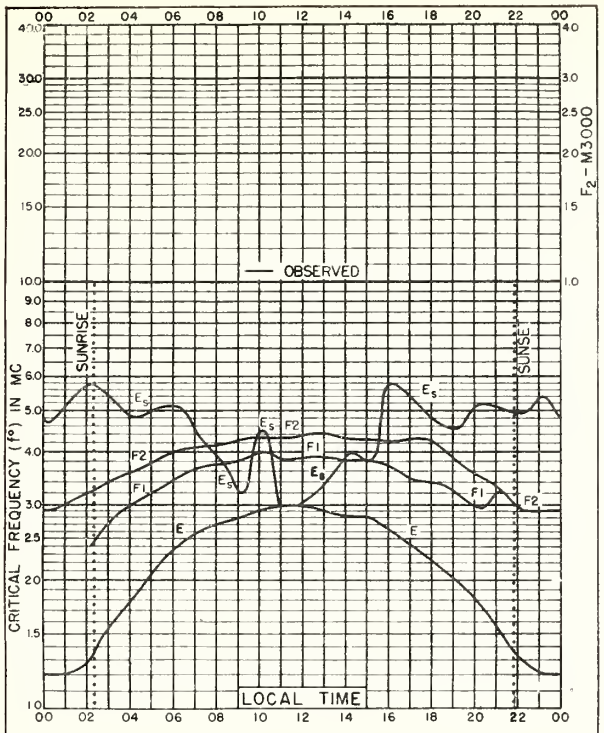


Fig 70. FAIRBANKS, ALASKA AUGUST 1943



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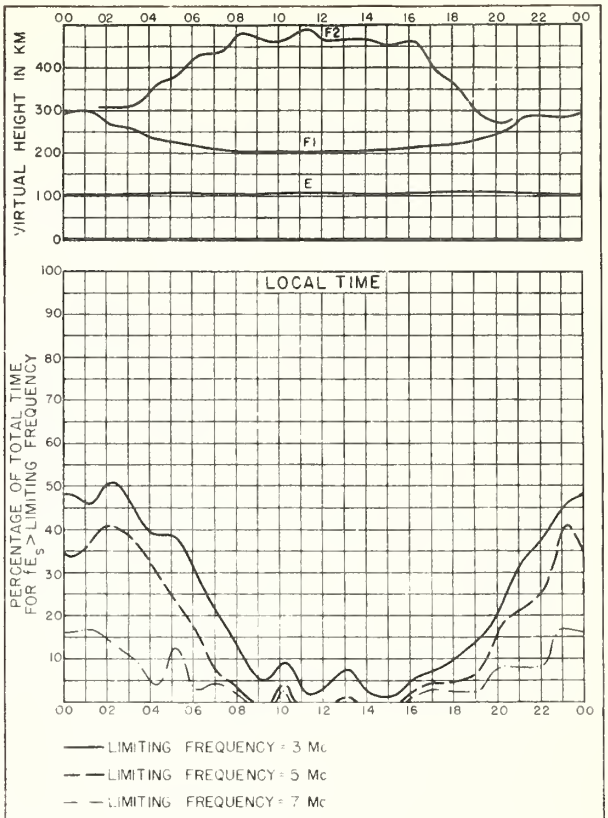

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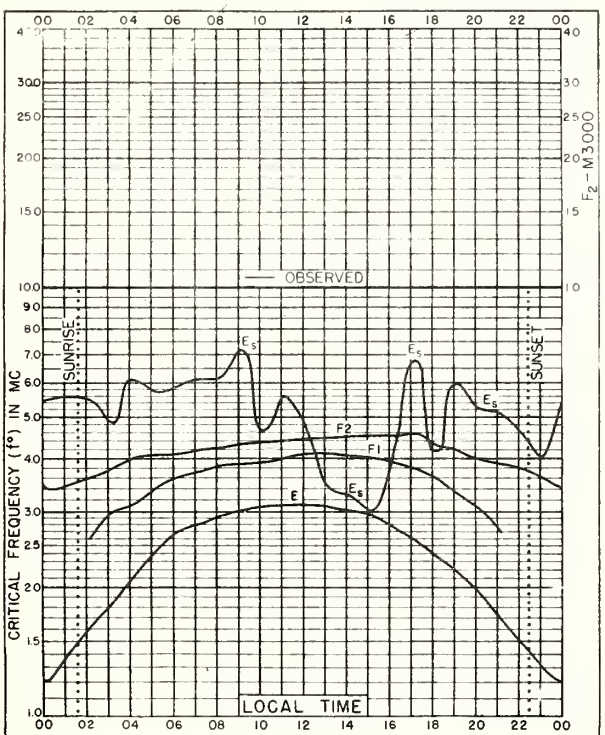

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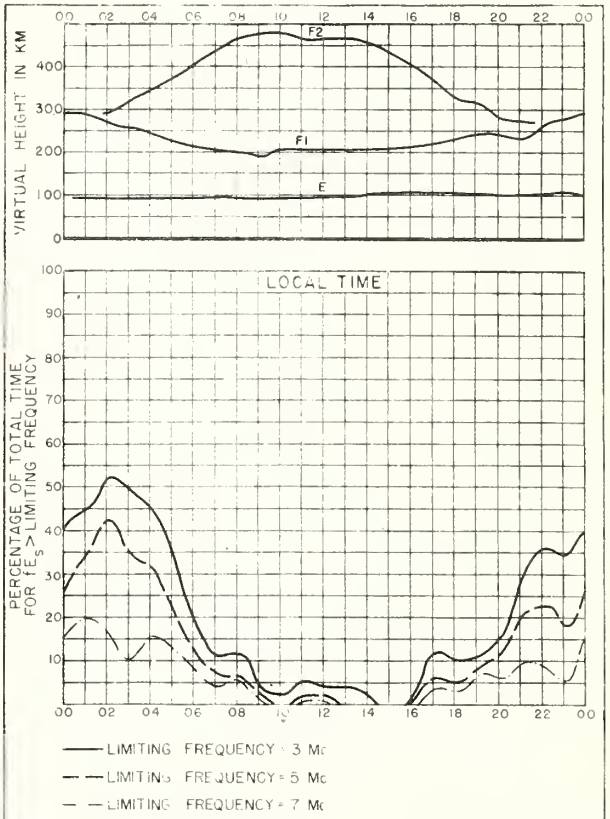

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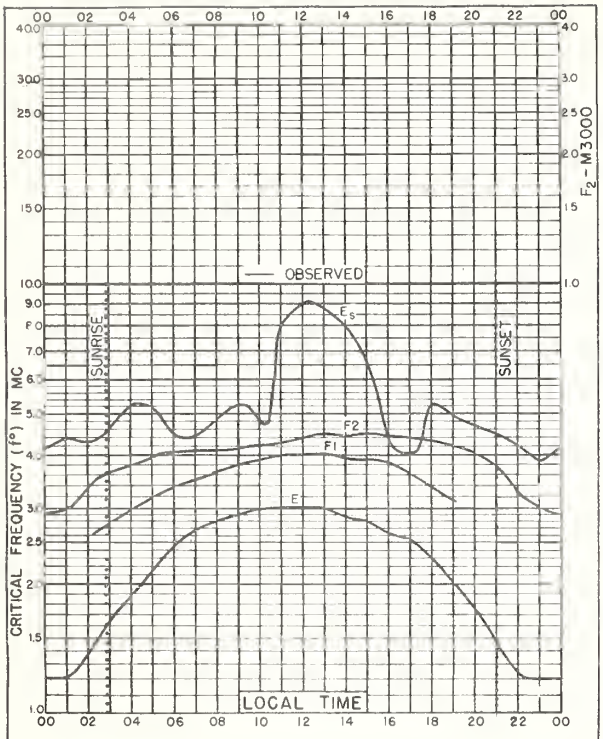

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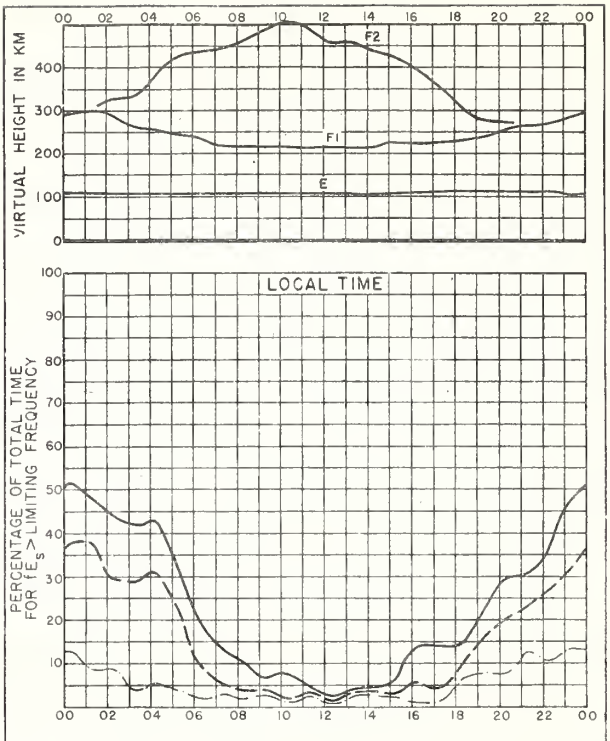

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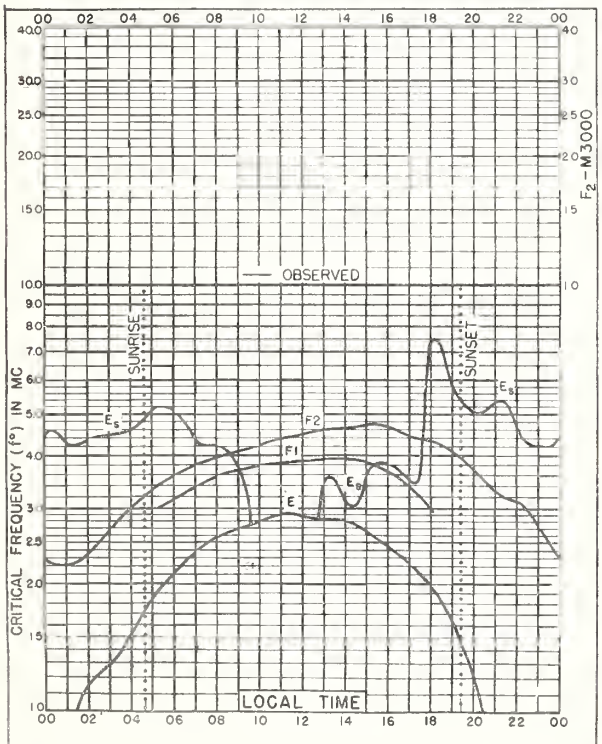

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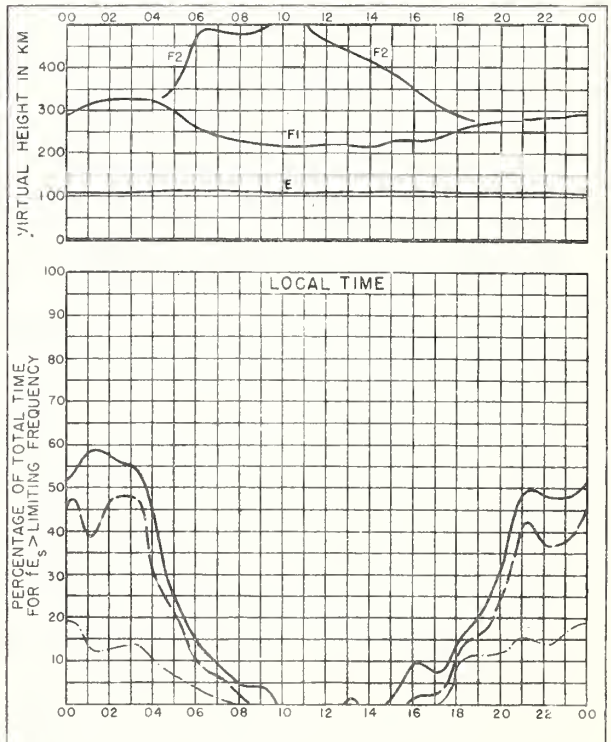

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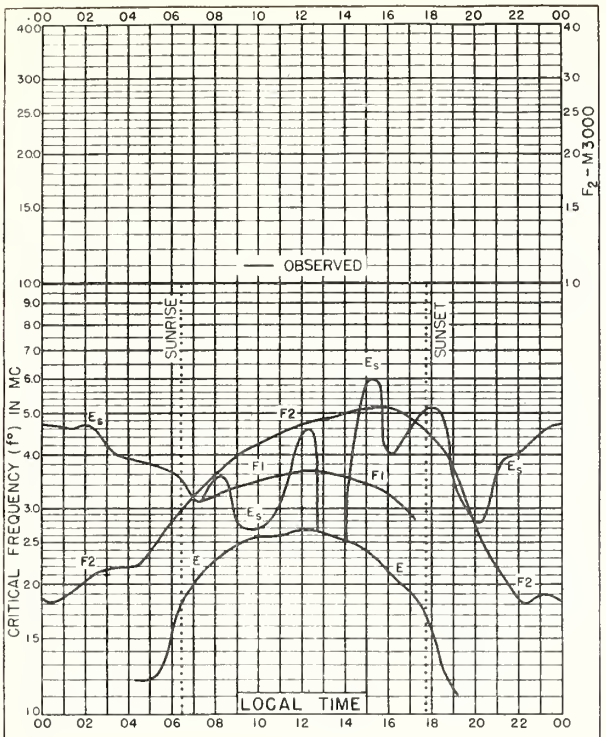

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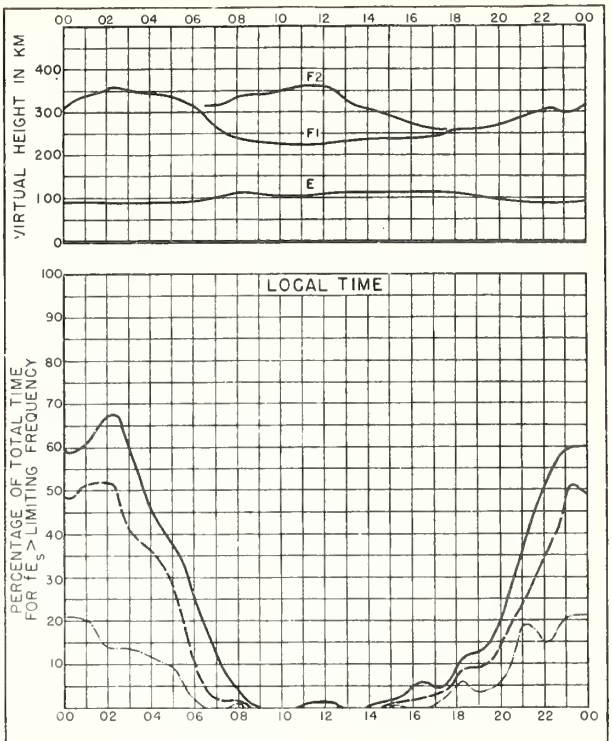

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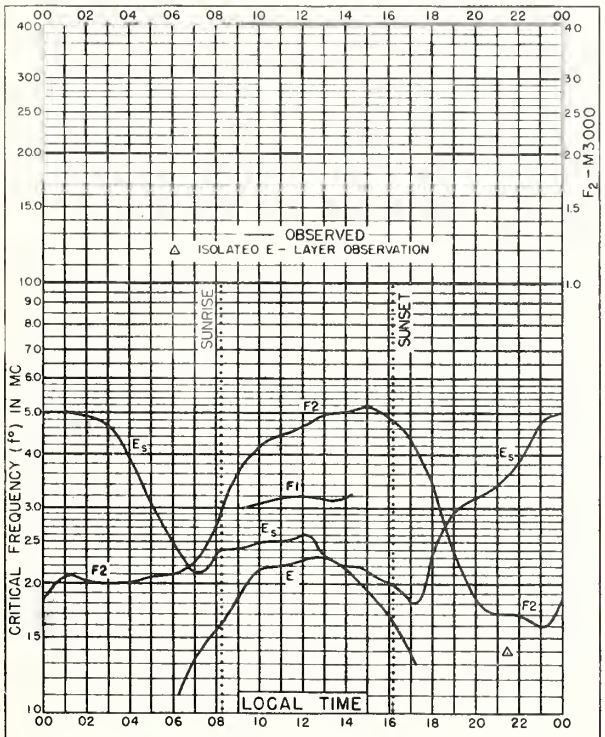

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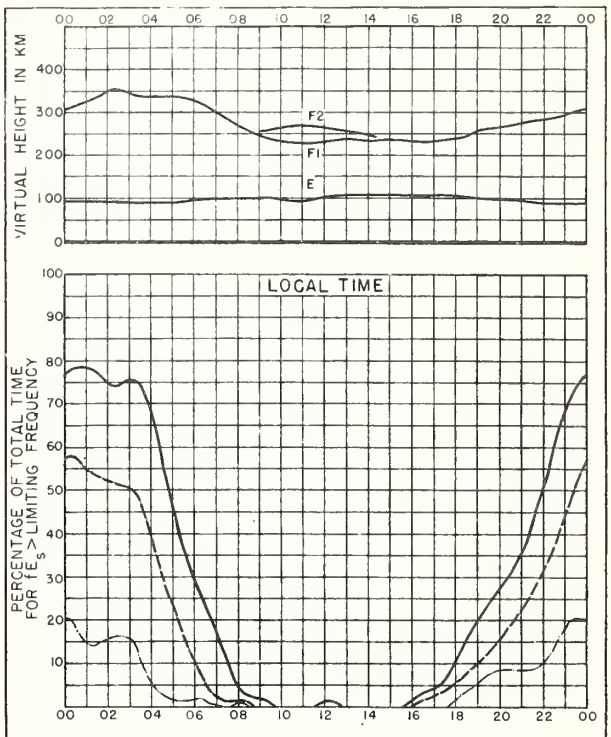

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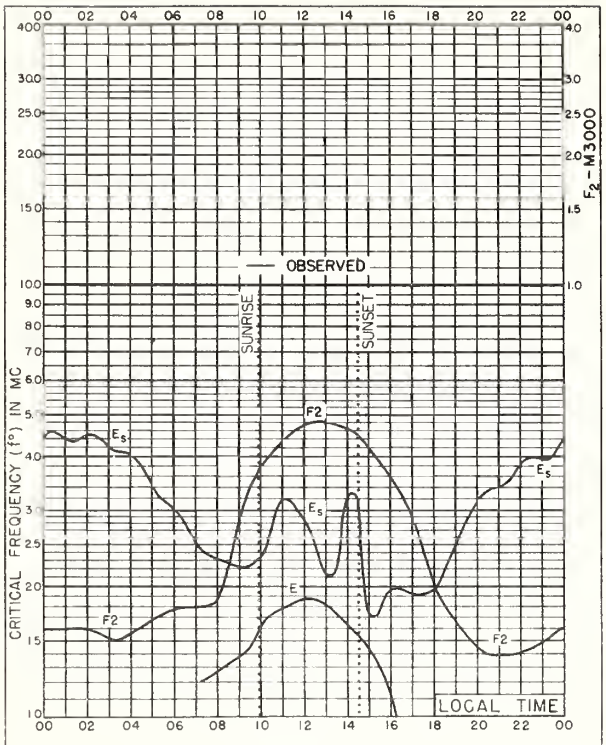

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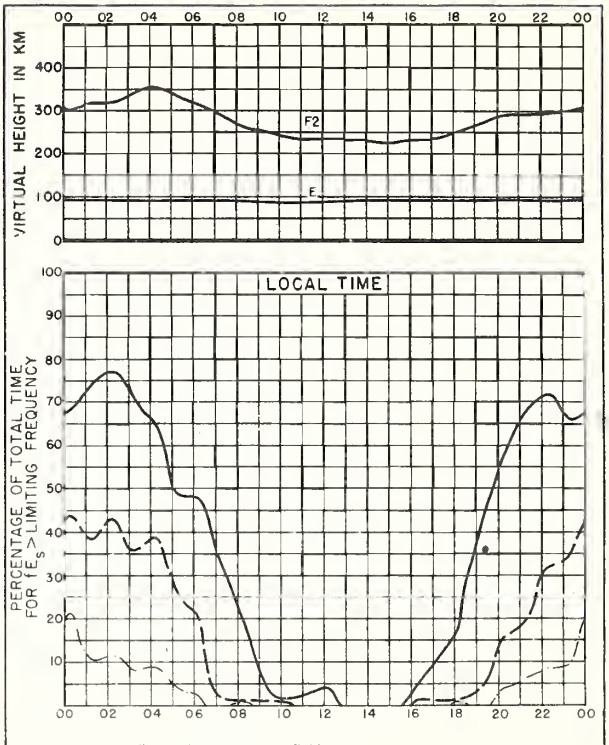

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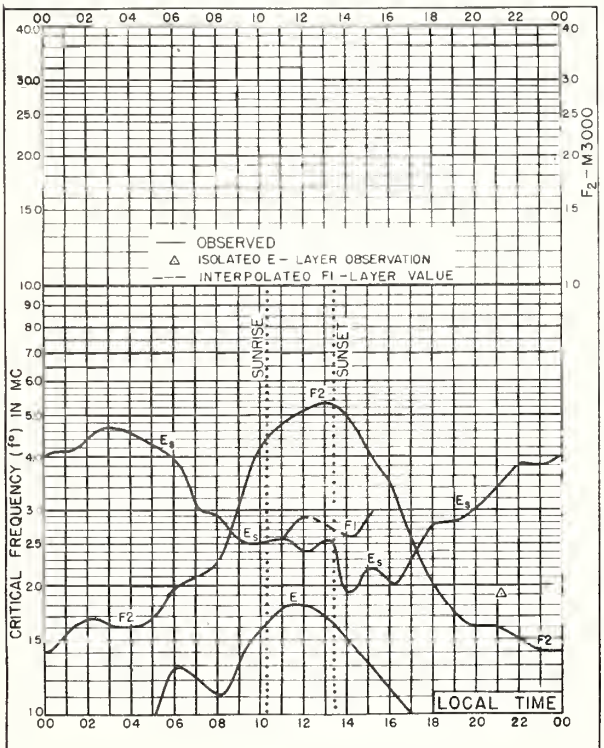

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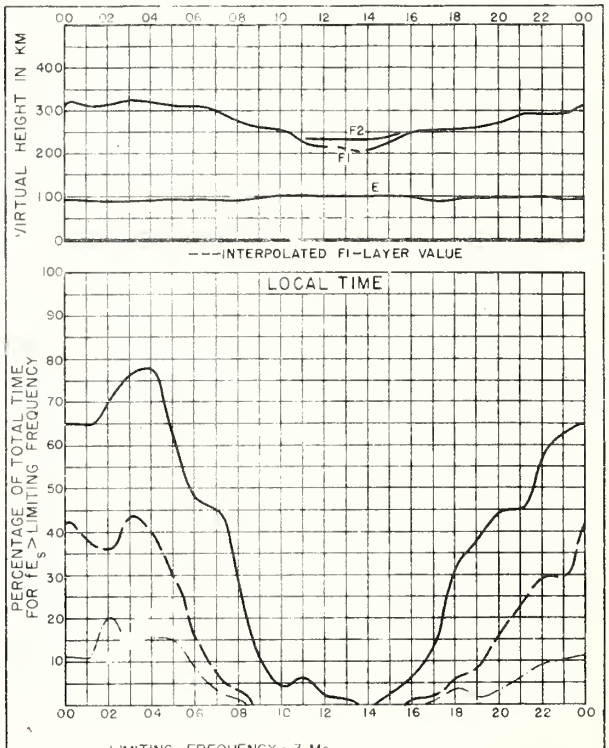

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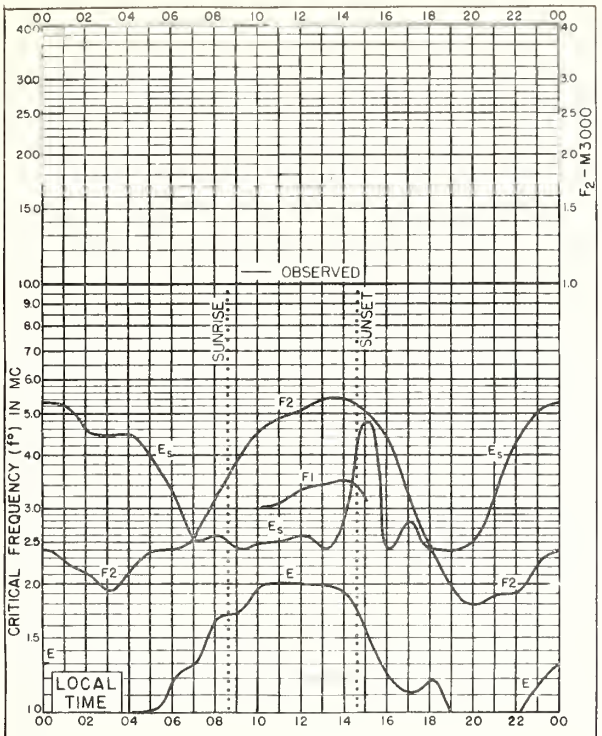

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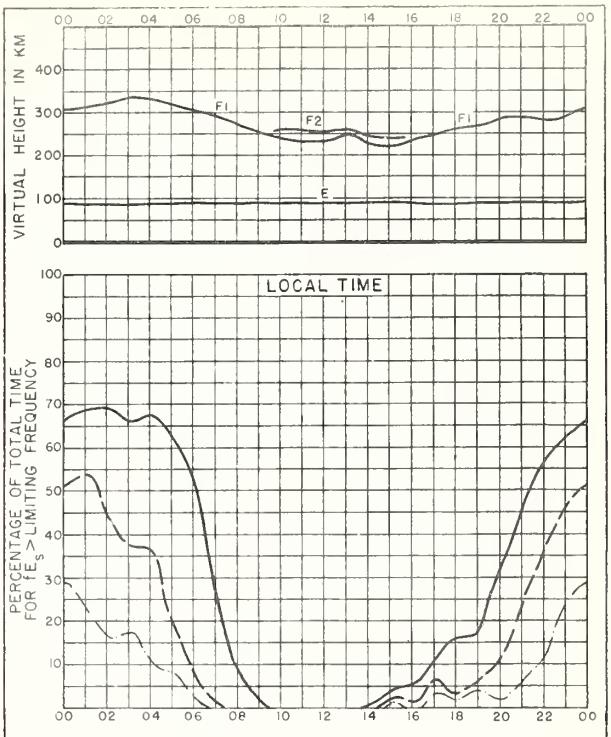

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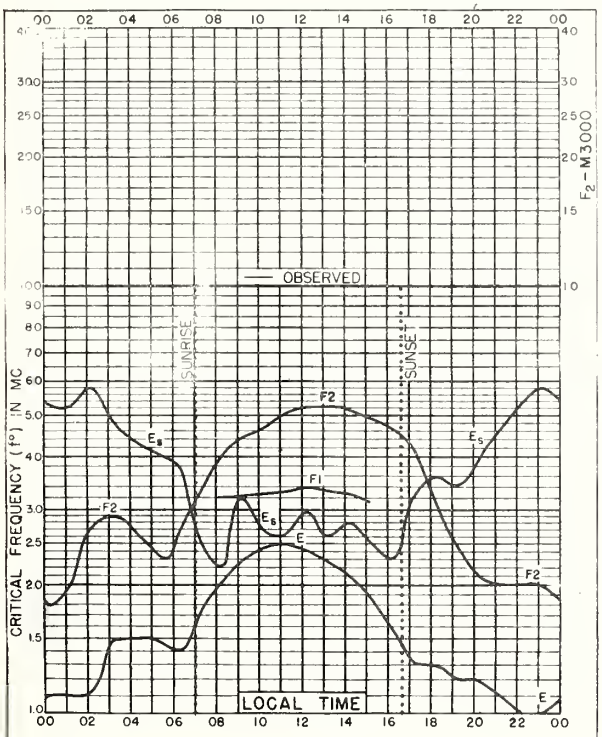

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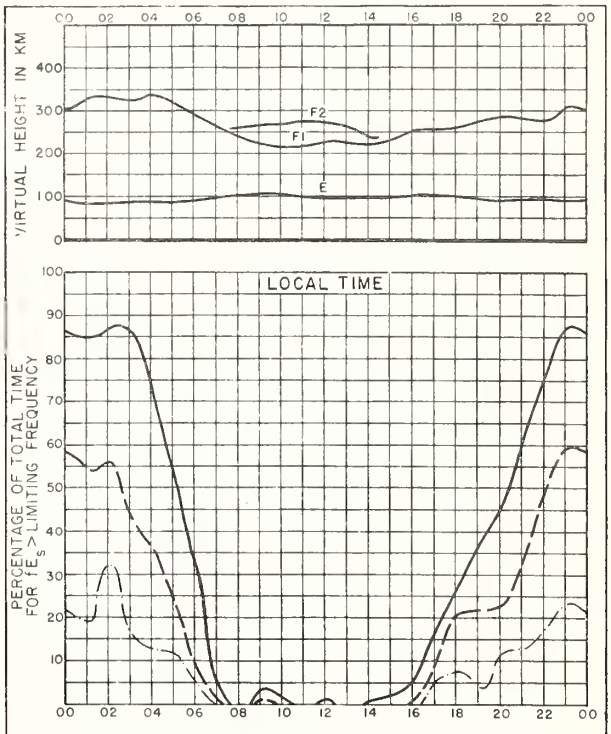

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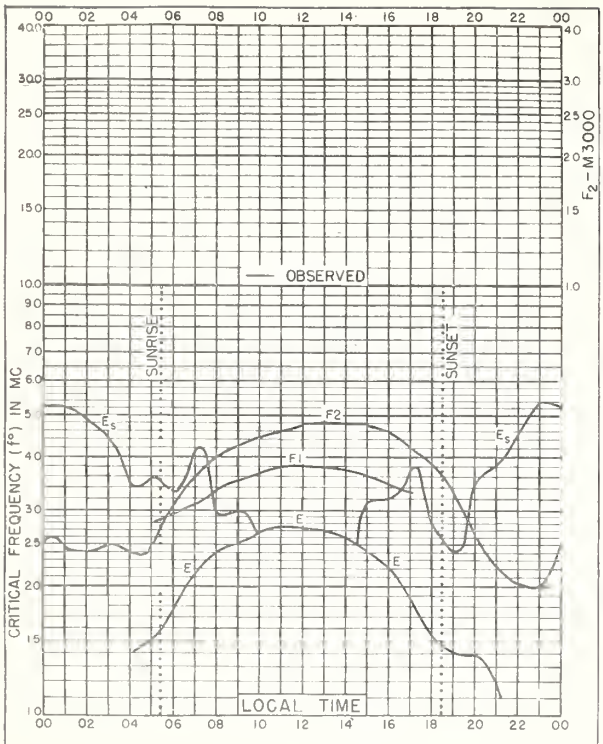

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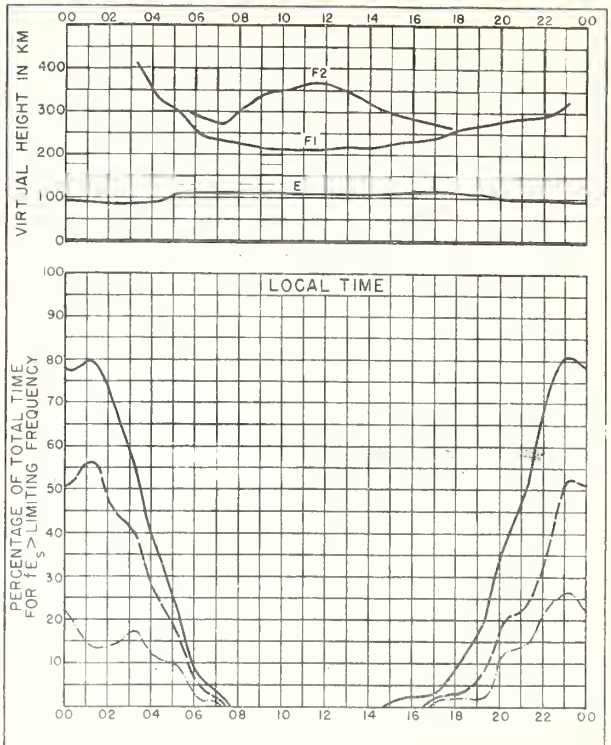

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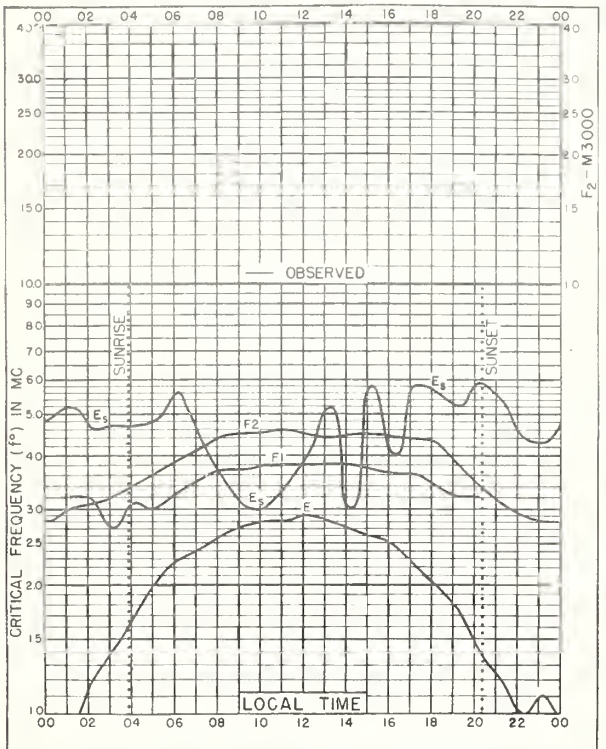

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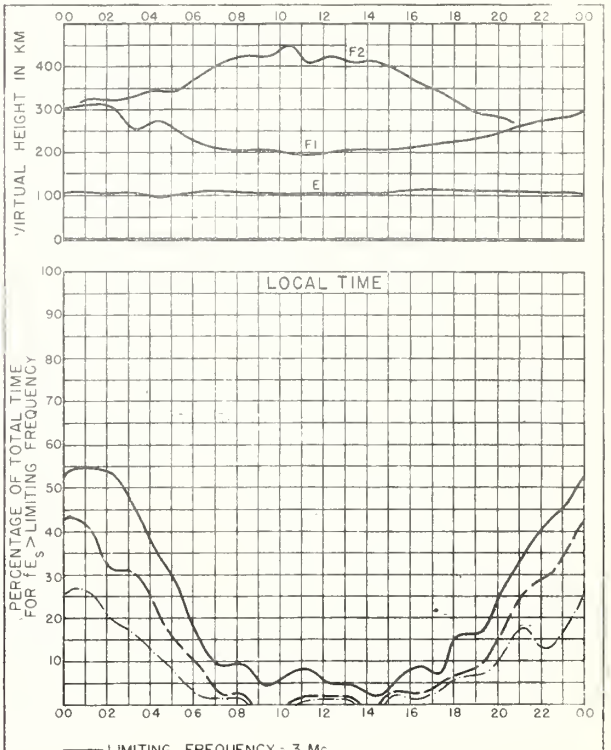

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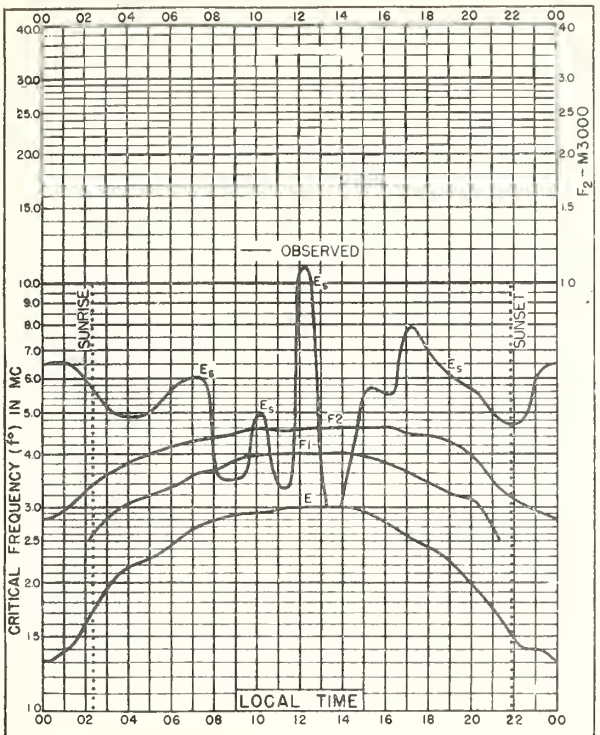

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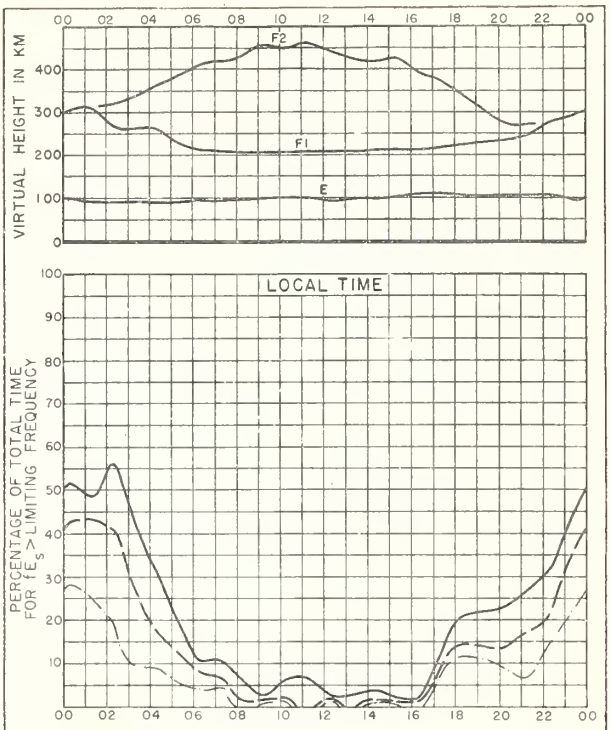

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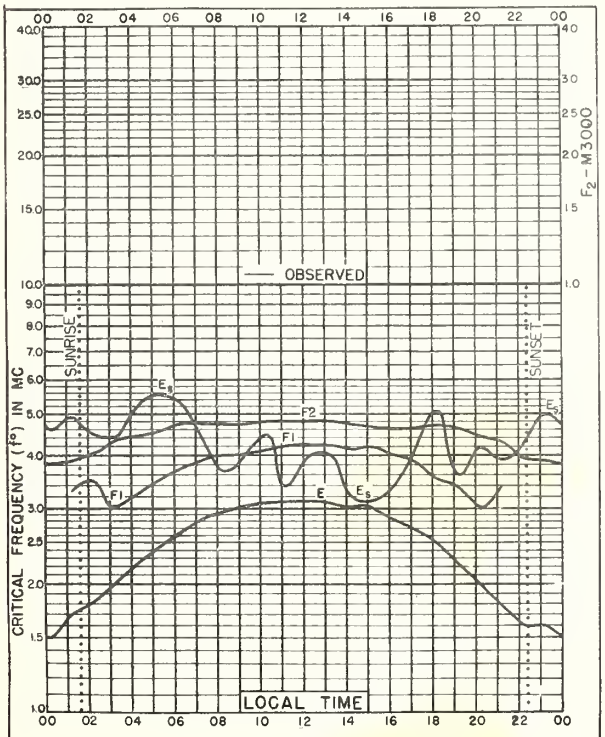

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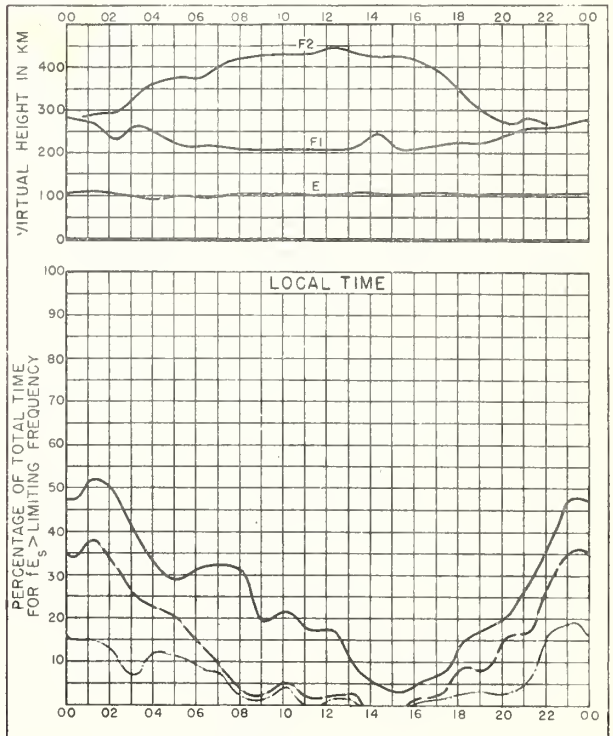

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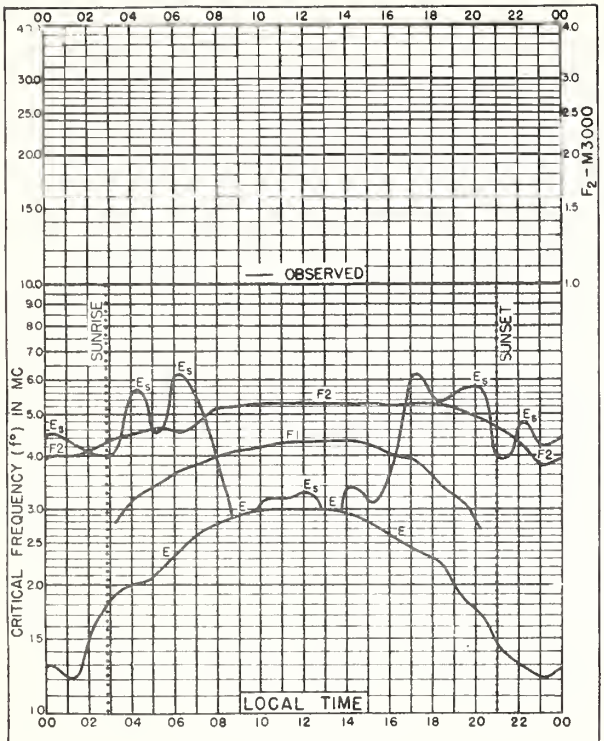

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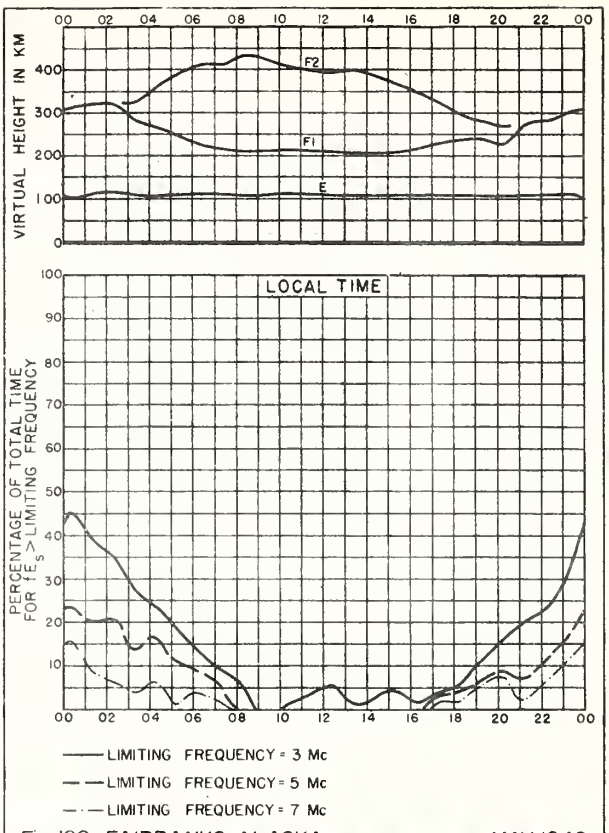

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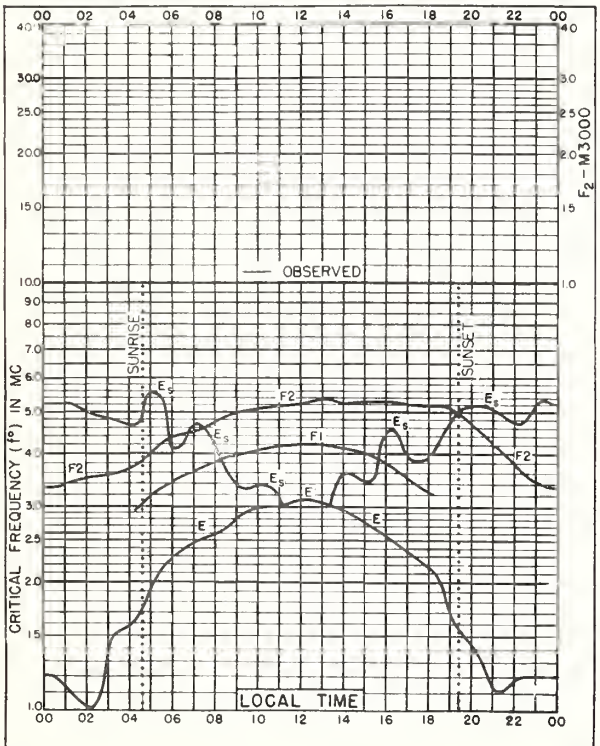

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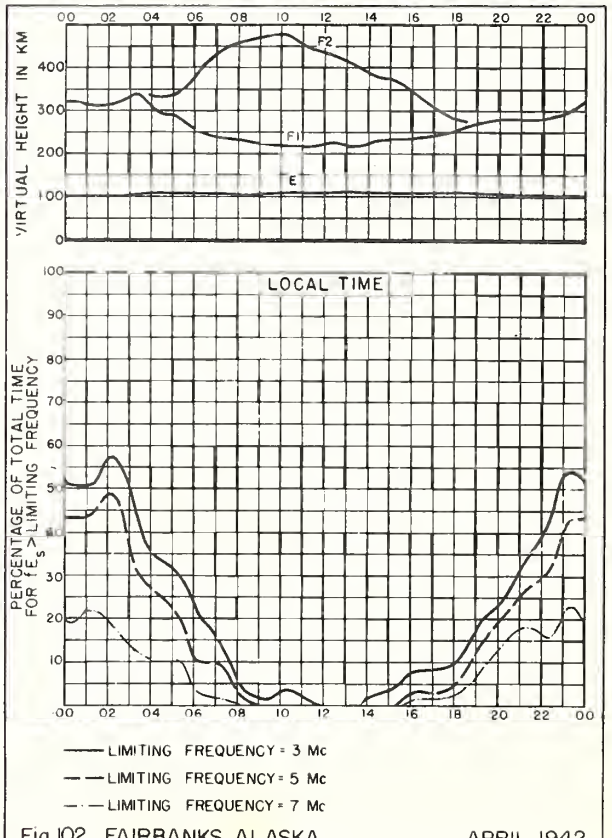

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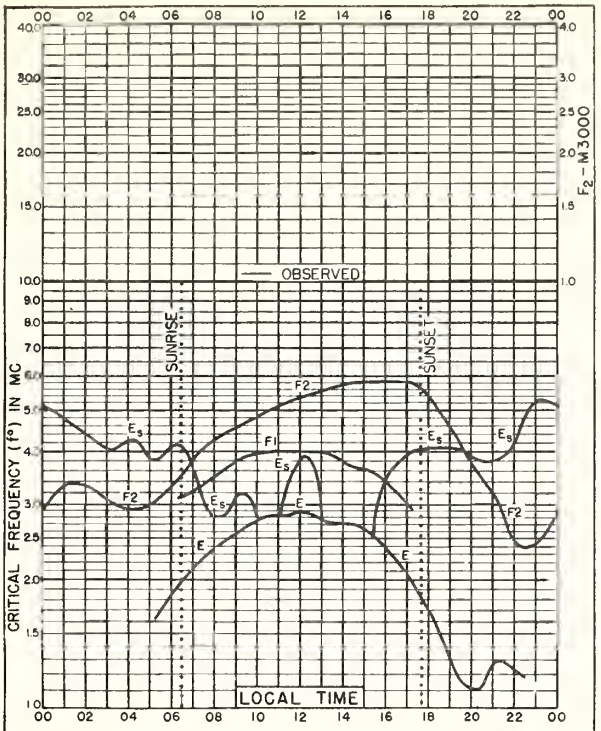

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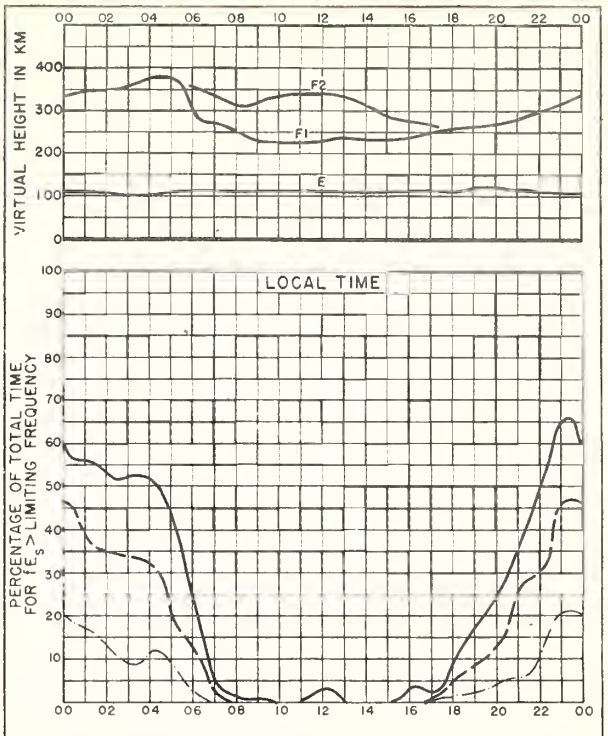

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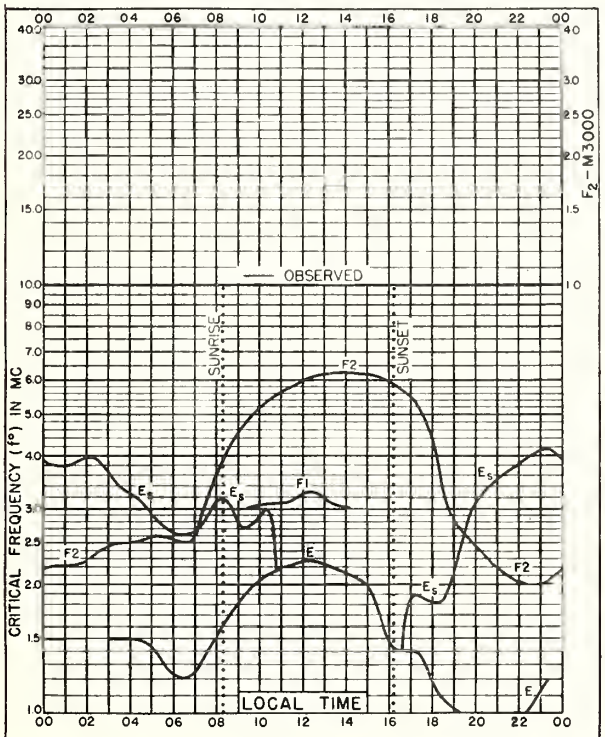

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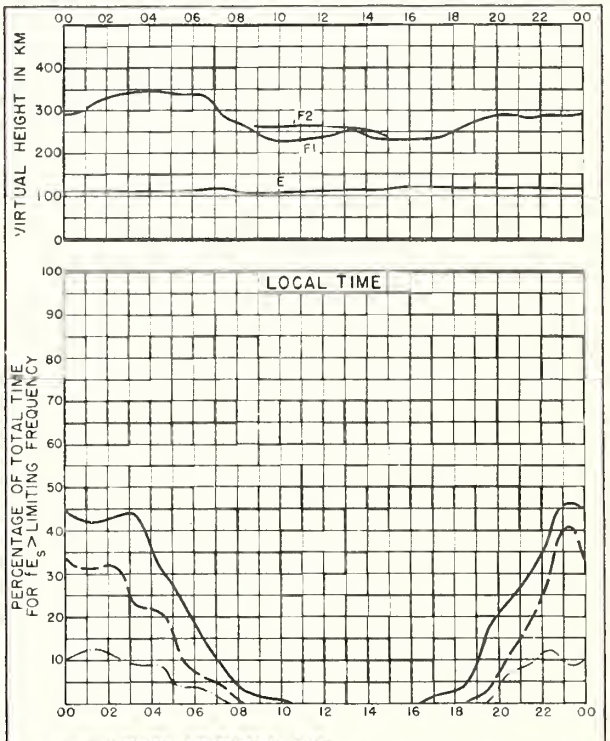

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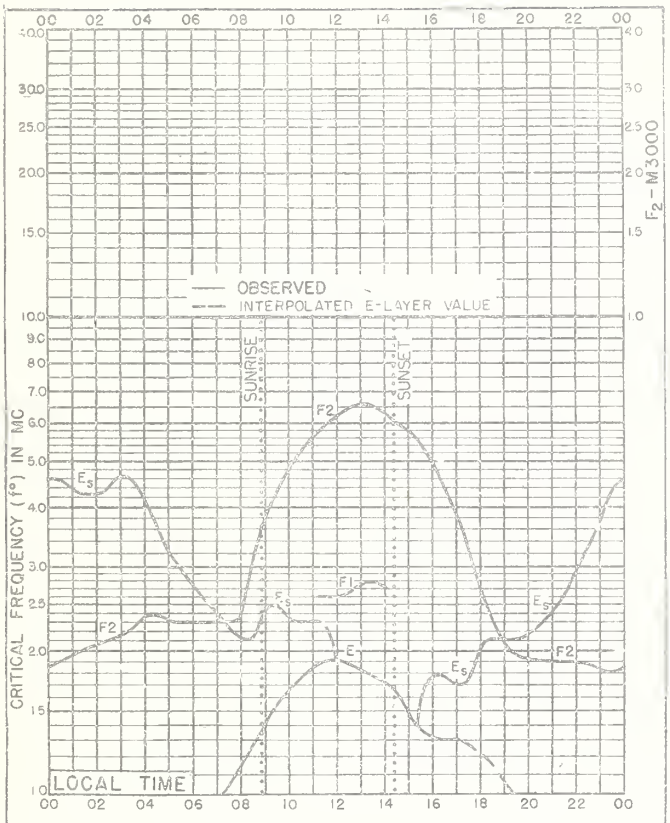

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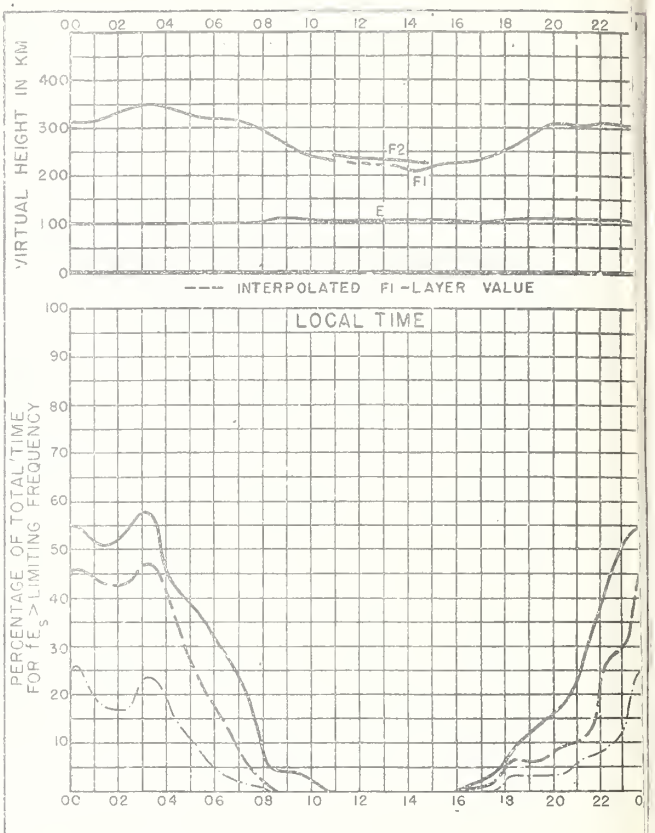

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